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Abstracts for oral presentation at the Association of Breast Surgery Conference, 18th & 19th June 2018, ICC Birmingham

Monday 18th June 2018, Session 5: Prize Papers. 11:00 to 12:30

1
HER-2 POSITIVE EARLY BREAST CANCER DETECTED THROUGH THE NHS BREAST SCREENING PROGRAMME (NHSBSP)

Ian Boon [1], Anthi Zeniou [1], Emma Dugdale [1], Mark Teo [1], S. Cheung [2], O. Kearins [2], David Dodwell [1]. [1]*St. James Institute of Oncology, Leeds, United Kingdom*; [2]*West Midlands QA Reference Centre, Birmingham, United Kingdom*;

Introduction: Little is known about the outcomes of screen-detected HER-2 positive breast cancer. Here we report on the clinical features and pathology of these cancers. We, also, investigated patterns of adjuvant chemotherapy use across the UK and factors influencing 5-year cancer specific survival.
Methods: Data was collected from 57,103 breast cancer patients detected within the NHSBSP (2004 – 2009). Associations of HER-2 status with tumour phenotype, staging and adjuvant chemotherapy use were studied. Multivariate analysis was used to investigate factors influencing 5-year cancer specific survival. Trastuzumab use was not recorded.
Results: HER-2 positive breast cancers detected via the NHSBSP demonstrated a higher incidence of grade 3 tumours, oestrogen negative tumours and nodal involvement compared to HER-2 negative disease. There was significant geographical variation in reported adjuvant chemotherapy use, though no difference in 5-year cancer specific survival. Multivariate analysis identified higher T stage, higher grade of disease, HER-2 and nodal positivity as factors influencing the likelihood of receiving adjuvant chemotherapy. The use of adjuvant chemotherapy in the HER-2 positive population was associated with a survival benefit [HR 0.70 (0.52-0.96), p = 0.025].
Conclusion: HER-2 positivity is associated with more aggressive disease in screen-detected early breast cancer. Adjuvant chemotherapy use in the HER 2-positive population was associated with an improvement in 5-year cancer specific survival. We speculate that this may be reflective of the introduction and use of adjuvant trastuzumab in this group of patients.

2
5 YEARS OF PREPECTORAL BREAST RECONSTRUCTION: OUTCOMES AND LESSONS LEARNT

Gareth Irwin, Lyndsey Highton, Richard Johnson, Cliona Kirwan, James Harvey, John Murphy. *Nightingale Breast Unit, Manchester University NHS Foundation Trust, Manchester, United Kingdom*;

Introduction: Acellular dermal matrices (ADM) have enabled single stage implant breast reconstruction (IBR). Reconstruction techniques have progressed from total submuscular, to subpectoral with lower pole ADM and recently to prepectoral with total ADM coverage. We report the outcomes and lessons learnt over five years of using prepectoral reconstruction.
Methods: A prospective database of implant-based reconstruction was mined to identify prepectoral patients. Patient demographics, surgical complications and outcomes were analysed accordingly.
Results: Prepectoral IBR with total ADM coverage was performed in 150 patients (242 reconstructions) from 2013 to present. 71.5% were immediate and 28.5% were either delayed or replaning of submuscular implants. 29.4% of the immediate reconstructions were therapeutic with the remainder risk-reducing.
4.96% of breasts had minor complications (seroma, red breast, stitch abscess). More major complications occurred in 4.13% of breasts (skin or nipple necrosis). The explantation rate was 2.48%. Local recurrence rates are zero. 84% of patients required one operation (including nipple reconstruction etc.). Further surgery has been primarily lipomodelling or symmetry surgery.
Patient satisfaction, assessed by Breast Q-PROMS, shows comparable or superior levels of patient satisfaction compared to subpectoral reconstruction. There have been no cases of animation, malposition or grade III/IV capsular contracture.
Conclusion: Five year follow-up data shows satisfactory outcomes with comparable complication rates to other techniques. These patients recover quickly, with reduced animation, malposition, functional impairment and capsular contracture. Some patients report higher rates of upper pole rippling that require lipomodelling.

3
A 'BEST-PRACTICE' PATHWAY FOR THE ACUTE MANAGEMENT OF MASTITIS AND BREAST ABSCESS ENABLES NON-SPECIALISTS TO "GET IT RIGHT FIRST TIME"

Neill Patani [1], Findlay MacAskill [1], Sarah Eshelby [1], Asha Omar [1], Anika Kaura [1], Kayo Contractor [1], Paul Thiruchelvam [1,2], Sally Curtis [3], Janice Main [4], Deborah Cunningham [1], Katy Hogben [1], Ragheed Al-Mufti [1], Dimitri Hadjiminas [1,2], Daniel Leff [1,2]. [1]*Breast Unit, Imperial College Healthcare NHS Trust, London, United Kingdom*; [2]*Department of Surgery and Cancer, Imperial College, London, United Kingdom*; [3]*Department of Microbiology, Imperial College Healthcare NHS Trust, London, United Kingdom*; [4]*Department of Infectious Diseases, Imperial College Healthcare NHS Trust, London, United Kingdom*;

Introduction: Acute mastitis and/or breast abscess are frequently managed by non-specialist Accident and Emergency staff and General Surgeons on-call. Sub-optimal practice includes variable antibiotic prescribing, unnecessary/prolonged hospitalisation, lack of ultrasound assessment/aspiration, frequent surgical drainage, inconsistent follow-up and significant diagnoses being missed. The objective was to evaluate management across a multi-site NHS Trust and address deficiencies with a 'best-practice' algorithm, encompassing National Institute for Health and Care Excellence (NICE) and Guidelines and Audit Implementation Network (GAIN) recommendations.
Methods: A retrospective service evaluation (Trust-ID=047529, Phase-I, n=53) was compared to a prospective cohort (Phase-II, n=61), following pathway implementation and educational sessions. Thereafter, a prospective loop-closing audit (Phase-III, n=80) re-assessed practice and sustainability of improvements.

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Results: The intervention improved antibiotic guideline compliance (Pre=34.0% vs. Post=58.2%, p=0.003) which was maintained (Phase-II vs. III, p=0.684) and sustainably increased ultrasound assessment (Pre=37.7% vs. Post=77.3%, p=0.000; Phase-II vs. III, p=0.894). Reductions for surgical drainage (Pre=7.5% vs. Post=0.7%, p=0.007) were maintained (Phase-II vs. III, p=0.381), and follow-up consistently improved (Pre=43.4% vs. Post=95.7%, p=0.000; Phase-II vs. III, p=0.120). However, admission (Pre=30.2% vs. Post=20.6%) and median length of stay [Pre=2 days (range=1-5) vs. Post=1 day (range=1-6)], were not significantly reduced.
Conclusion: An inexpensive management pathway significantly and sustainably reduced practice variation and improved management of breast sepsis. Barriers to optimal care are not unique to this Trust and trainee collaboratives should be encouraged to undertake similar service evaluations. Such interventions could have reproducible benefits across the NHS through existing national quality improvement frameworks and help non-specialists to "get it right first time".

4
DOES IMMEDIATE BREAST RECONSTRUCTION DELAY THE DELIVERY OF ADJUVANT TREATMENT? THE IBRA-2 PROSPECTIVE MULTICENTRE COHORT STUDY

Rachel O'Connell [1], Tim Rattay [2], Rajiv Dave [3], Adam Trickey [4], Chris Holcombe [5], Shelley Potter [4]. on behalf of the iBRA-2 Steering Group and the Breast Reconstruction Research Collaborative [1]*Epsom and St Helier NHS University Hospital, London, United Kingdom*; [2]*University of Leicester, Leicester, United Kingdom*; [3]*University Hospital of South Manchester NHS Foundation Trust, Manchester, United Kingdom*; [4]*University of Bristol, Bristol, United Kingdom*; [5]*University of Liverpool, Liverpool, United Kingdom*;

Introduction: There are concerns that patients who undergo immediate breast reconstruction (IBR) may be at risk of delay in delivery of adjuvant oncological treatments. iBRA-2 is a national prospective multicentre cohort study aimed to investigate the impact of IBR on delivery of adjuvant therapy.
Methods: Breast/plastic surgery centres performing mastectomy with or without (+/-) IBR were invited to participate, and local approval sought. All women undergoing mastectomy +/- IBR for breast cancer between 1/7/16-31/12/16 were eligible.
Results: 2548 patients were recruited from 76 centres. 1016 (39.9%) underwent IBR. Complications were experienced by 36.6% (n=932) patients. There were no significant differences in overall complication rates between procedure types (p=0.12). Patients undergoing IBR were significantly more likely to require reoperation (p<0.0001) for complications than undergoing mastectomy only. Adjuvant chemotherapy or radiotherapy was required by 1241 (48.7%) patients and no differences were seen in time to delivery Table 1.

Table 1

	Mastectomy only (n=1532)	Implant reconstruction (n=675)	Pedicled-flap reconstruction (n=105)	Free-flap reconstruction (n=228)	P-value
≥1 complication	570 (37.2%)	223 (33.0%)	42 (40.0%)	94 (41.2%)	0.12
Any in-hospital complication	44 (2.9%)	17 (2.5%)	3 (2.9%)	20 (8.8%)	<0.001
Unplanned re-operation	29 (1.9%)	69 (10.2%)	5 (4.8%)	22 c(9.6%)	<0.001
Underwent adjuvant therapy	804 (52.5%)	288 (42.7%)	50 (47.6%)	93 (40.8%)	NS
Time from oncological procedure to adjuvant treatment (days) (median, IQR)	52 (41-66)	51 (41-63)	57 (42-73)	57 (46-72)	0.22

Conclusion: IBR is associated with higher complication rates requiring readmission or re-operation compared to mastectomy alone but does not significantly increase the time to adjuvant therapy.

5
NO DIFFERENCE IN ONCOLOGICAL OUTCOMES AFTER IMMEDIATE OR DELAYED RECONSTRUCTION FOLLOWING MASTECTOMY FOR BREAST CANCER

Elizabeth Morrow [1], Ross Dolan [1], Eva Weiler-Mithoff [2], Vivienne Blackhall [3], Laszlo Romics [3]. [1]*Academic Unit of Surgery, University of Glasgow, Glasgow, United Kingdom*; [2]*Canniesburn Plastic Surgery Unit, Glasgow Royal Infirmary, Glasgow, United Kingdom*; [3]*New Victoria Hospital, Glasgow, United Kingdom*;

Introduction: Breast reconstruction is an important option for patients after mastectomy for breast cancer. Few studies have evaluated the effect of reconstruction timing on oncological outcome. We aimed to determine if a difference in cancer outcomes exists for patients who undergo delayed (DR) versus immediate (IR) breast reconstruction.
Methods: Patients who underwent IR or DR between 2005–2006 were identified from the regional plastic surgery unit's prospectively maintained database. Tumour pathology, treatment details, recurrence and mortality data were obtained from the electronic patient record. Logistic regression analysis was carried out for the cohorts and compared. Further analysis was carried out between IR and DR cohorts matched for age group, tumour size and nodal status.
Results: 193 IR and 116 DR patients were identified, with median follow up 116 months (46-185) from mastectomy. For DR patients, median time from mastectomy to reconstruction was 27 months (6-58). There were 49 breast cancer deaths and 65 recurrences. There was no difference in breast cancer specific survival (CSS) when measured from time of mastectomy (DR HR 1.05 (0.59-1.89), p=0.861) or reconstruction (DR HR 1.33 (0.75-2.40), p=0.334). There was no difference in recurrence rates (RR) when measured from time of mastectomy (DR HR 0.94 (0.56-1.60), p=0.822) or reconstruction (DR HR 1.23 (0.73-2.07), p=0.433). 96 DR patients were successfully matched to an IR patient. Again, there was no difference in CSS or RR.
Conclusion: Our data has demonstrated no difference in CSS or RR between patients who underwent mastectomy with DR compared to patients who had IR.

6
EXTRINSIC CLOTTING PATHWAY MARKERS PREDICT SURVIVAL IN EARLY BREAST CANCER

Hudhaifah Shaker [1], Jing YE. Heah [1], John Castle [1], Susan Pritchard [2], Harith Albadry [2], Sarah Nicholson [2], Lauren J. Lumsden [2], Cliona C. Kirwan [1,3]. [1]*Division of Cancer Sciences, University of Manchester, Manchester, United Kingdom*; [2]*Pathology Department, Manchester University NHS Foundation Trust, Manchester, United Kingdom*; [3]*The Nightingale and Prevent Breast Cancer Centre, Manchester University NHS Foundation Trust, Manchester, United Kingdom*;

Introduction: We previously demonstrated upregulation of tissue and plasma extrinsic clotting (EC) factors and association with aggressive breast cancer phenotypes. We sought to determine if tumour and plasma expression of a procoagulant phenotype is associated with reduced disease-free survival (DFS) and overall survival (OS) in early breast cancer.
Methods: In a prospective study of early breast cancer (n=250, CHAMPion study), tumour expression (epithelial and stromal) of EC pathway markers Tissue Factor (TF), thrombin and their receptors PAR1 and PAR2 was determined by immunohistochemistry. Plasma EC pathway markers thrombin-antithrombin III (TAT) and d-dimer were measured (immunoassay) prior to surgery. Procoagulant phenotype expression was correlated with DFS and OS.
Results: Median age was 59 years (range 23-84). Median survival was 61.9 months (range 8.4 to 80.2). All-cause mortality was 6% (n=15) and 14 patients (5.6%) developed recurrent disease (local/distant). On univariate analysis, fibroblast TF expression was associated with reduced OS (p=0.02) and showed a trend for association with reduced DFS (p=0.1). Epithelial thrombin expression was associated with reduced DFS (p=0.04). Preoperative plasma TAT (p=0.02) and d-dimer (p=<0.05) were associated with reduced OS. On multivariate analysis, stromal TF was an independent marker of overall survival (HR 1.059, 95%-CI 1.002–1.119, p=0.04).

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Conclusion: Although limited by infrequent events, our data demonstrates that stromal, epithelial and systemic markers of the EC pathway may be associated with reduced survival in early breast cancer. A procoagulant phenotype may predict worse cancer prognosis and these cancers may benefit from novel therapies targeting the clotting pathway.

7

CAN SURGERY BE AVOIDED IN SELECT BREAST CANCER PATIENTS WITH COMPLETE RADIOLOGICAL RESPONSE TO NEOADJUVANT CHEMOTHERAPY?

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Introduction: In the past no specific guidelines were available for surgical-management of breast and axilla post-neoadjuvant chemotherapy (NAC). Practices varied. We evaluated the recurrences, disease-free survival (DFS) & overall survival (OS) of patients post-NAC in relation to the surgical/ non-surgical management of breast & axilla.
Methods: Data from January 2000 - December 2010 was collected retrospectively.
Results: Total patients – 121. The NAC regimes used then were CMF, E-CMF, EC/T, AC/T. Patients with radiological complete response (rCR) to NAC did not undergo any breast surgery, but axillary surgery (ANC/ ANS) was performed depending upon the response. They received radiotherapy to breast-axilla-supraclavicular fossa and endocrine treatment.

Table 1

	No Surgery	WLE	Mastectomy
Patients	29	44	48
Response to NAC			
Complete	29	3	5
Partial		38	32
Nil		3	11
LN-positivity	1	22	33
Tumour-type			
IDC/IDC+DCIS	23	38	27
Mixed	4	3	6
ILC/ILC+DCIS	1	1	13
DCIS		2	2
ER-positive	13	19	28
HER2-positive/negative	9/12	8/31	10/29
Recurrence			
Local	6.89%	20.45%	8.33%
Distant	10.34%	27.27%	45.83%
Mortality	10.34%	27.27%	50%
DFS(months)	130(9-198)	89(14-193)	96(13-207)
OS(months)	139.1(42-212)	99.8(18-195)	85(10-207)

Partial responders had WLE/mastectomy and non-responders underwent mastectomy.
ANOVA test showed statistical significance in DFS and OS in these 3 groups ($p=0.0012$, $p= 0.00063$ respectively).
Conclusion: The reflection of practice showed good long-term outcome in patients who had NAC, rCR and no surgery.
Recent advances in NAC, targeted therapies and knowledge of molecular aspect of breast cancer have increased the complete response rates. Further trials on safe omission of surgery post-NAC could prove beneficial if accurate prediction of residual disease is achieved using advanced imaging technology.

8

A NEW DEDICATED WELSH ONLINE BREAST CANCER PREDICTIVE TOOL: CAFRO

Leen Intabli [1], Asmaa Al-Allak [2], Gianfillippo Bertelli [3], Paul Lewis [4]. [1]*School of Management, Swansea, United Kingdom*; [2]*Cheltenham General Hospital, Gloucestershire, United Kingdom*; [3]*Singleton Hospital, Swansea, United Kingdom*; [4]*School of Management and School of Medicine, Swansea, United Kingdom*;

Introduction: Regional variations exist in both the incidence and survival of patients with breast cancer (BC). In Wales survival has been reported as lower compared to figures in England and Northern Ireland. The application of currently available predictive tools may inaccurately estimate treatment benefits and survival outcomes in the Welsh population.
The aim of this study was to create a local interactive online analysis tool that allows the clinician to define prognostic criteria and return survival patterns through multivariate analysis.
Methods: A database of patients diagnosed with BC in south west Wales between 1996 and 2007 was constructed containing multiple variables on 3,009 patients.
For multivariate analysis, principal component analysis (PCA) and partition around medoids (PAM) clustering methods were implemented. Kaplan-Meier survival curves, Log-rank test and Cox proportional hazards model were applied for survival analysis.
R Studio was used to analyse and develop the web interface of the tool.
Results: CaFro allows information on a single patient, a group of patients or more to be compared. With a single click CaFro generates graphical outputs of survival analysis and textual data relative to any statistical analysis performed, which can be saved as a report. The tool was further developed to allow a clinician to upload local data to CaFro for individualised patient analysis.
Conclusion: CaFro is an online interface that has been developed to allow clinicians to individualise the management of their patients based on local population outcomes. It allows patients to visualise their outcomes and aid in their decision making.

Monday 18th June 2018, Session 9: Submitted Papers. 14:35 to 16:05

9

NEO-ADJUVANT VERSUS ADJUVANT CHEMOTHERAPY IN EARLY BREAST CANCER: EBCTCG PATIENT-LEVEL META-ANALYSIS OF LONG-TERM OUTCOMES AMONG 4756 WOMEN IN 10 RANDOMISED TRIALS

Paul McGale [1], Carolyn Taylor [2], Gurdeep Mannu [2], Jeremy Braybrooke [2], Rosie Bradley [2], Hongchao Pan [2], Yaochen Wang [2], Zhe Wang [2], David Dodwell [3]. [1]*Early Breast Cancer Trialists Collaborative Group, Oxford University, Oxford, United Kingdom*; [2]*Oxford University, Oxford, United Kingdom*; [3]*Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*;

Introduction: We studied the long-term effects of neo-adjuvant chemotherapy (NACT) on outcome by performing a meta-analysis of individual patient data from all available randomized trials comparing NACT with post-operative adjuvant chemotherapy.

Methods: We obtained information about patient demographics, tumour characteristics, clinical response, surgery, recurrence, and mortality for 4756 women in 10 randomised trials that began before 2005. We assessed tumour response, local therapy, local and distant recurrence, breast cancer death, and overall mortality. Analyses were by intention-to-treat and used standard regression and log-rank methods.
Findings: Patients entered the trials from 1983 to 2002 and median follow-up was 9 years with the last follow-up in 2013. Most chemotherapy was anthracycline-based (3838 [81%] of 4756 women).
69% of 1947 women allocated NACT had a complete or partial clinical response. Patients allocated NACT had an increased frequency of breast-conserving therapy (65% vs 49%], but NACT was associated with more frequent local recurrence (21.4% vs 15.9% at 15 years). No significant difference between NACT and adjuvant chemotherapy was noted for distant recurrence, breast cancer mortality or death from any cause.

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Interpretation: Tumours downsized by NACT have a higher risk of local recurrence after breast-conserving therapy than tumours of the same dimensions in women who have not received NACT. The implications of this finding on contemporary practice will be discussed.
Funding: CR-UK, British Heart Foundation, MRC, and Department of Health.

10
A SYSTEMATIC REVIEW OF THE IMPACT OF BREAST CONSERVING SURGERY ON CANCER OUTCOMES OF MULTIPLE IPSILATERAL BREAST CANCERS (MIBC)—THE CASE FOR A RANDOMISED TRIAL

Zoe Winters [1], Jonathan Horsnell [2], Karen Elvers [3], Anthony J. Maxwell [4], Louise J. Jones [5], Abeer M. Shaaban [6,7], Peter Schmid [5], Norman R. Williams [8], Andrew Beswick [9], Rosemary Greenwood [10], Jennifer C. Ingram [10], Christobel Saunders [11], Jayant S. Vaidya [8], Laura Esserman [12], Ismail Jatoi [13], Adrian M. Brunt [14]. [1]*University College London, Division of Surgery and Interventional Science, Faculty of Medical Sciences, London, United Kingdom*; [2]*Royal Surrey County Hospital NHS Foundation Trust, Surrey, United Kingdom*; [3]*University of Bristol, Patient-Centred and Clinical Outcomes Research Group, Bristol, United Kingdom*; [4]*Wythenshawe Hospital, Manchester, United Kingdom*; [5]*Queen Mary University of London, Bart's Cancer Institute, London, United Kingdom*; [6]*Queen Elizabeth Hospital Birmingham, Birmingham, United Kingdom*; [7]*University of Birmingham, Birmingham, United Kingdom*; [8]*University College London Surgical and Interventional Trials Unit, London, United Kingdom*; [9]*University of Bristol, Translational Health Sciences, Bristol Medical School, Bristol, United Kingdom*; [10]*University Hospitals Bristol NHS Foundation Trust, Research Design Service - South West, Bristol, United Kingdom*; [11]*University of Western Australia, Division of Surgery, Harry Perkins Institute of Medical Research, Fiona Stanley Hospital, Perth, Australia*; [12]*University California San Francisco Carol Franc Buck Breast Care Centre, San Francisco, United Kingdom*; [13]*University of Texas Health Science Centre, Division of Surgical Oncology and Endocrine Surgery, Department of Surgery, San Antonio, USA*; [14]*University Hospitals of North Midlands and Keele University, Stoke on Trent, United Kingdom*;

Background: Clinical effectiveness of treating ipsilateral multifocal (MF) and multicentric (MC) cancers using breast-conserving surgery (BCS) compared to the standard of mastectomy is uncertain. Inconsistencies relate to definitions, incidence, staging and inter-tumoural heterogeneity. This systematic review aimed to compare clinical outcomes after BCS *versus* mastectomy for MF and MC cancers, defined as multiple ipsilateral breast cancers (MIBC).
Methods: Comprehensive electronic searches identified complete English language papers (May 1988 - July 2015) primarily comparing clinical outcomes of BCS to mastectomy for MIBC. All study designs were included with critical appraisal using the Newcastle-Ottowa Score (NOS): $\geq$7 stars -'high', 4 - 6 stars -'moderate' and remainder - 'poor'. Study characteristics and results are summarized.
Results: All 24 studies were retrospective: 17 comparative and 7 case series (n=3537 women with MIBC undergoing BCS: 2677 were defined as MF, 292 as MC, and 568 as MIBC). Six studies evaluated MIBC treated by BCS or mastectomy with local recurrence (LR) rates of 3 - 23% (median follow-up (FU) 60-months, IQR 56 - 81). BCS and mastectomy showed apparently equivalent rates of LR (RR 0.96, 95% CI 0.65-1.40). Thirteen studies compared BCS in MIBC to unifocal cancers reporting LR rates of 2 - 40% (median FU 64 months, IQR 57-73). One high quality study reported 10 year actuarial LR rates of 5.5% versus 6.5% for BCS (n=300) and mastectomy (n=887).
Conclusions: 'Moderate' quality studies were historical and underpowered, with limited follow-up and biased case selection favouring BCS for low-risk patients versus mastectomy. Evidence was inconclusive, weakening support for the St Gallen consensus and supporting a future randomised trial.

11
INDOCYANINE GREEN (ICG) FLUORESCENCE MAPPING FOR SENTINEL LYMPH NODE (SLN) LOCALISATION IN EARLY BREAST CANCER

Sujit Gnanakumar, Dorin Dumitru, Elena Provenzano, John Benson. *Cambridge Breast Unit, Addenbrooke's Hospital, Cambridge, United Kingdom*;

Introduction: Dual localization methods with blue dye and radioisotope are commonly employed for SLN identification but allergic reactions and tissue staining disadvantage blue dye. A feasibility study using blue dye, radioisotope and ICG confirmed high sensitivity for ICG. This follow up study has evaluated a combination of ICG with radioisotope.
Methods: In a prospective observational study 50 patients with unilateral clinically node negative invasive (n=49) or non-invasive (n=1) breast cancer underwent SLN biopsy with radioisotope and ICG. All patients had pre-operative ultrasound and the number of sentinel nodes recorded numerically and whether radioactive, fluorescent or both.
Results: A total of 102 nodes were retrieved from 50 patients with an average nodal count of 2.04 per patient (range $1-4$) and identification rate of 98% (49/50). 92.2% of nodes were fluorescent and 61.8% (63/102) radioactive (concordance rate of 69.6%). Eight nodes were removed incidentally or were palpably suspicious and all tracer negative. Nodal detection rates for ICG alone and combined with radioisotope were 92.2% (94/102) and 61.8% (63/102) respectively whilst procedural detection rates were 98% (49/50) for radioisotope and 100% (50/50) for ICG. Metastases were present in 9 nodes (all fluorescent and hot) with 9 patients having a single positive node each (node positivity rate 18%). No serious adverse reactions were noted.
Conclusion: ICG fluorescence imaging has comparable accuracy but provides a visual dimension over radioisotopic localisation alone. Refinements in technique and experience may permit ICG as a sole tracer agent thereby avoiding drawbacks of both blue dye and radioisotope.

12
UTILITY OF ONE-STEP NUCLEIC ACID (OSNA) CYTOKERATIN-19 AMPLIFICATION ASSAY TOTAL TUMOUR LOAD (TTL) IN SURVIVAL PREDICTION, IN PRIMARY OPERABLE INVASIVE BREAST CARCINOMA

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Introduction: One-Step Nucleic acid Amplification (OSNA) can be used to quantitatively stage axillary node involvement in patients with breast carcinoma. Recently, OSNA total CK19mRNA copy number (total tumour load, TTL) has been shown to correlate with disease-free, local recurrence-free and overall-survival. We assessed the utility of OSNA TTL as a substitute for histological axillary node staging in determining prognosis within two prediction models.
Methods: The pathology reports of 1034 patients (December 2012 – July 2017) who had intraoperative OSNA analysis were reviewed. Patients with at least one macro-metastasis on whole-node analysis underwent axillary node clearance (ANC). TTL copy numbers were transformed from continuous into categorical data and partitioned into disease burden subgroups, with negative (< 250/uL), micro-metastatic (250 - 5000/uL) and macro-metastatic (> 5000/uL) node status. The latter group was sub-categorised (>5000-15,000/uL: >2 node +: > 15,000/uL: >2 node+:>54,000/uL:> 4 node +). Surrogate TTL group values were used to generate an independent prognostic index (IPI) that was compared with the corresponding 10 year breast cancer-specific survival estimates from the revised Nottingham Prognostic Index (NPI, 2007) and PREDICT (Version 2.0).
Results: 179 patients (16.5%) required OSNA directed ANC. IPI correlation was very strong for overall (R^2=0.78), > 2 positive nodes (R^2=0.82) and > 4 positive node (R^2= 0.81) thresholds with revised NPI. The Limits of Agreement (Bland-Altman) were narrow and clinically sound (2SD=0.25, NPI).
Conclusions: Categorical OSNA TTL stratification can substitute histologically derived axillary node staging and also be used as a surrogate in prediction modelling.

13
CHEMOTHERAPY UTILISATION IN PATIENTS AGED 50 YEARS AND OVER, DIAGNOSED WITH INVASIVE EARLY BREAST CANCER IN ENGLAND: DATA FROM A POPULATION-BASED COHORT

Melissa Gannon [1,2], Yasmin Jauhari [1], Kieran Horgan [3], Jibby Medina [1], Karen Clements [4], David Cromwell [1,2], David Dodwell [3]. [1]*Clinical Effectiveness Unit, Royal College of Surgeons, London, United Kingdom*; [2]*Department of Health Services Research and Policy, London School of*

Hygiene and Tropical Medicine, London, United Kingdom; [3]*Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*; [4]*National Cancer Registration and Analysis Service, Public Health England, Birmingham, United Kingdom*;

Introduction: Although mortality has fallen in early breast cancer (EBC), over the last 10 -15 years, improvements in older women have lagged behind those for younger patients. Use of non-optimal treatments may contribute to poorer outcomes. This study examined chemotherapy utilisation amongst women with invasive EBC, aged >=70yrs compared to those aged 50 - 69yrs, as part of the National Audit of Breast Cancer in Older Patients (NABCOP).
Methods: Women aged >=50yrs, diagnosed with invasive EBC (stage ≤2) in England between 01/01/2014–30/06/2015, identified from a linked dataset of BC patients from the national cancer registry, Hospital Episode Statistics (HES), Systemic Anti-Cancer Therapy dataset (SACT) and Office for National Statistics (ONS). Multilevel models were used to account for clustering in the data.
Results: 39,096 women were diagnosed with invasive EBC; 38% (n=14,901) >=70yrs. Proportions receiving chemotherapy declined steadily by age (30% 50 - 59yrs; 19% 60 - 69yrs; 9% 70 - 79yrs; <1% >=80yrs). This pattern was observed regardless of ER or HER2 status; with a wide gap for ER-ve (58% 50 - 69yrs; 20% >=70yrs) and HER2+ve (57% 50 - 69yrs; 25% >=70yrs). Adjusting for Charlson Comorbidity Index, stage, indicators of ER & HER2 status, deprivation and clustering within geographical region, age remained independently associated with reduced chemotherapy utilisation. Increasing age was associated with longer time from diagnosis to chemotherapy initiation.
Conclusion: In this recently diagnosed cohort of women with invasive EBC, age alone was a strong determinant for chemotherapy utilisation. NABCOP will aim to develop more appropriate assessments for treatment decision-making in older patients based on frailty, co-morbidity and cognition.

14
OUTCOMES OF INTRAOPERATIVE VERSUS PRE-OPERATIVE ULTRASOUND LOCALISATION OF IMPALPABLE BREAST LESIONS IN THE CAMBRIDGE BREAST UNIT

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Introduction: Excision of impalpable breast tumours requires image guided localisation. Most lesions are visible on ultrasound or can be marked using a sonographically visible marker, allowing ultrasound localisation. Intraoperative localisation (IOL) allows streamlining of this process. We compare outcomes of IOL performed by an ultrasound competent surgeon with those of pre-operative localisation (POL). Primary outcome was rate of re-excision, secondary outcomes were accuracy of localisation and excision quality assessed by specimen x-rays.
Methods: Patients undergoing a localisation excision from 01/01/2015 to 30/08/2017 were included. Data was extracted from electronic medical records. Anonymised specimen radiographs were scored independently by the authors, and average score recorded as Good, Average, Poor. Localisation accuracy was scored by lesion distance from wire hook; Good 0 - 2cm, Average 2 - 3cm, Poor >3cm. Excision quality was scored as; Good - lesion central margins <2cm, Average - lesion eccentric or margin>2cm, Poor - lesion within 5mm of at least one edge.
Results: 353 lesions were localised in 336 patients. 180 were POL and 173 were IOL. 35/180 (19.4%) POL required re-excision versus 24/173 (13.9%) IOL *(p=0.199, Fisher's exact) (NS)* Table 1.

Table 1

Localisation Accuracy	Good	Average	Poor
POL	78%	10%	5%
IOL	79%	10%	4%
Excision Quality	Good	Average	Poor
POL	43%	34%	18%
IOL	51%	32%	11%

Conclusion: Impalpable lesions can be localised intraoperatively by an appropriately trained surgeon without loss of quality of excision. This has implications for patient experience and resources. We are now assessing the training requirement to reach competency for ultrasound naïve trainees.

15
ENHANCED PRE-OPERATIVE ASSESSMENT OF THE AXILLA WITH GREY-SCALE AND CONTRAST ENHANCED ULTRASOUND (CEUS) MAY CHARACTERISE A GROUP OF PATIENTS WHO CAN SAFELY OMIT AXILLARY SURGERY

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Introduction: Grey-scale ultrasound identifies approximately 50% of lymph node (LN) metastases. The addition of contrast-enhanced ultrasound (CEUS) to visualise sentinel lymph nodes (SLN) increases the detection of malignant LN but a proportion remain occult. As ultrasound normal axillae are unlikely to harbour high volume disease, we assessed the number of metastatic LN at the end of primary surgical treatment in patients with a false negative CEUS SLN core biopsy.
Methods: Between 2010 and 2016 prospective data was collected on 1361 consecutive patients with early breast cancer (T1-T3/ multifocal) from Maidstone Hospital. All patients had a normal grey-scale axillary ultrasound before proceeding to CEUS SLN core biopsy.
Results: Complete data was available for 1348 patients, SLN were visualised in 1216 (90%) and successfully biopsied in 1083 (80%). 816 patients underwent primary surgical treatment and the sensitivity of CEUS SLN core biopsy was 46.9% (95% CI 39.4 – 55.5). 730 patients had an initial benign CEUS SLN core biopsy with 95 false negatives; 37 ITC/ micrometastases, 46 with 1 LN macrometastasis and 12 with 2 or more LN macrometastases. In total 12/730 (1.6%) of patients with a benign CEUS SLN core biopsy had residual high volume axillary disease. Of the 84 patients with a true positive CEUS SLN core biopsy 50% had 2 or more LN macrometastases.
Conclusions: The combination of grey-scale axillary ultrasound and CEUS SLN core biopsy is an effective system to 'filter out' significant LN metastases and may guide the selection of patients who can safely avoid axillary surgery.

16
NEOADJUVANT ENDOCRINE THERAPY; EFFECT ON PHENOTYPE AND MOLECULAR PROFILE IN LUMINAL BREAST CARCINOMA

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Introduction: Neoadjuvant endocrine therapy (NAET) is increasingly being used in the management of oestrogen receptor positive (ER+) breast cancer (BC). Little is known about the rate of complete response, optimal method(s) for histological assessment of response to NAET, and the effect of the therapy on the histological characteristics and receptor status of the tumours. This study aims to assess the histological features of response to NAET and its effect on tumour type, grade and molecular profile.
Methods: Patients who underwent NAET for primary and operable invasive carcinoma between 2008 and 2017 at a large UK tertiary referral center were identified with collection of their comprehensive clinical, histopathological and follow up data. A detailed histological review of the tumour morphology, cellularity and scarring pattern of a subset of post-operative tumour sections was undertaken.
Results: One hundred and seventeen cases were included with complete pathological response identified in 2 cases (1.7%). After therapy, a highly significant change in the histological subtype was noted in 10.25% of cases (p=0.004) with increase in tubular and mixed subtypes. Downgrading was observed in 16.3% of cases. A switch from PR positive to negative status occurred in 29% of cases (p=0.003). 3.5% of cases changed to non-luminal subtypes especially in white British and Asian ethnicities (p=0.012). Response to therapy was highly related to the tumour cellularity

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(p<0.001). Infiltrative tumour border was associated with patient poor survival (p=0.015).

Conclusion: Significant changes in tumour characteristics and PR status occur following NAET.

Tuesday 17th June 2018, Session 14: Submitted papers. 09:00 to 10:30

17
INTERNATIONAL VALIDATION OF THE EUROPEAN ORGANISATION FOR RESEARCH AND TREATMENT OF CANCER QLQ-BRECON23 QUALITY-OF-LIFE QUESTIONNAIRE FOR WOMEN UNDERGOING BREAST RECONSTRUCTION

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Background: Phase 4 international field-testing of the European Organisation for Research and Treatment of Cancer (EORTC) breast reconstruction (BRECON) module was conducted. The primary objective was finalization of its scale structure, with evaluation of its reliability, validity, responsiveness, acceptability and interpretability in cancer patients undergoing mastectomy and reconstruction.
Methods: Patients were recruited from 28 centres in seven countries. The prospective cohort completed the QLQ-BRECON15 before mastectomy and the QLQ-BRECON24 at 4 − 8 months after reconstruction. The cross-sectional cohort completed the QLQ-BRECON24 at 1 − 5 years after reconstruction, repeating this after 2 − 8 weeks (test–retest reliability).
Results: A total of 438 patients were recruited (234 prospectively and 204 in cross-sectional cohorts). 414 reconstructions were immediate, comprising implants (176) and donor-site flaps (166). Control groups comprised two-stage implants (72, 75%) or delayed reconstruction (24, 25%). Psychometric scale validity was supported by moderately high item-own scale and item-total correlations (>0.5). Questionnaire validity was confirmed by good scale-to-sample targeting, and computable scale scores >50%. In known-group comparisons, QLQ-BRECON24 scales differentiated between clinically defined groups, such as reconstruction types, post-mastectomy radiotherapy and surgical complications. Prospectively, sexuality and surgical side-effects scales showed significant responsiveness over time (P <0.001). Scale reliability was supported by high Cronbach's α (>0.7) and test–retest (intraclass correlation >0.8). One item (finding a well fitting bra) was excluded, thus generating the QLQ-BRECON23 questionnaire.
Conclusion: The QLQ-BRECON23 is an internationally validated tool to be used alongside the EORTC QLQ-C30 (cancer) and QLQ-BR23 (breast cancer) questionnaires for evaluating quality of life after reconstruction.

18
CHARACTERISTICS AND OUTCOMES OF OLDER WOMEN WITH BREAST CANCER UNDERGOING BREAST RECONSTRUCTION: ANALYSIS OF THE AGE GAP TRIAL

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Background: Oncoplastic breast surgery is uncommon in women >70 years despite evidence of benefit. This abstract presents outcome data on oncoplastic surgery in women >70 in a prospective observational study.
Methods: Women >70 with early breast cancer were recruited from 54 sites. Data on baseline health (CCI), dependency (ADL), cancer characteristics, treatment, Quality of Life (QoL) and adverse events were collected.
Results: Mastectomy+reconstruction (MR) was performed on 33/1017 (3.2%) women who underwent mastectomy (Mx), (11 implant only, 18 implant and ADM/dermal sling, 4 DIEP flaps). Median age of the reconstructed cohort was 73 (range 70-82) versus 76 (70 -101) for mastectomy alone (p<0.01). Median CCI was 3 (3-8) versus 4 (3-17) and ADL was 29 (11-30) versus 20 (1-20) (P< 0.05). 30-day mortality was zero. There were 19 acute complications (9 seromas, 2 haematomas, 5 infections, 3 flap necrosis); 1 functional impairment and 2 chronic pain. Therapeutic mammoplasty (thM) was performed on 54/1622 (3.3%) cases of breast conservation (BCS). Age, fitness and frailty characteristics were similarly skewed towards younger, fitter women. Median body image scores (EORTC BR23) at 6 months follow up were: Mx:75, MR:75, thM: 54, BCS: 67. Similarly, differences were non-significant in median global QoL score(-EORTC C30) at 6 months.
Conclusions: Reconstruction is rarely performed in women >70, but may be safe in selected older women with acceptable morbidity and mortality. Impact on body image is minimal but global quality of life may be enhanced.

19
SENTINEL LYMPH NODE BIOPSY (SLNB) IN CLINICALLY NODE NEGATIVE EARLY BREAST CANCER: A PUBLICATION-LEVEL META-ANALYSIS

Gurdeep Mannu, Carolyn Taylor, Paul McGale, David Dodwell. *University of Oxford, Oxford, United Kingdom*;

Introduction: SLNB is in routine use as a staging procedure for the clinically & radiologically negative axilla in invasive early breast cancer. Mature follow up from many of the randomized controlled trials (RCTs) is lacking and there is a need to understand the longer term outcomes associated with this procedure.
Methods: As preparation for an individual patient-level meta-analysis we identified all completed RCTs. We analyzed outcomes, including recurrence, mortality and arm lymphoedema, in patients with a negative SLNB who were randomized to receive axillary node clearance (ANC) after SLNB vs SLNB alone.
Findings: We identified 13 relevant RCTs published or presented between 2005 and 2014. Median follow up time was variable (12 to 115 months) and in some trials there was no follow up. Endpoint recording was also very variable - only 4 RCTs reported axillary recurrence. Within these constraints there were no differences in all-cause or breast cancer-related mortality, distant or local recurrence between randomized treatment arms. The risk of arm lymphoedema was significantly lower in patients randomized to SLNB alone.

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Interpretation: SLNB is currently recommended as a staging procedure in the clinically and radiologically node negative axilla and is associated with less arm lymphoedema, but there is limited follow up data and variability in reported endpoints across the RCTs that provide the evidence base for current practice. Longer-term follow up and an individual patient-level meta-analysis are needed to confirm the clinical utility and safety of SLNB.
Funding: CR-UK, British Heart Foundation, MRC, and Department of Health.

20
RATES OF LOCAL RECURRENCE FOLLOWING SKIN-SPARING MASTECTOMY FOR BREAST CANCER

Dorin Dumitru, Victoria Kollias, Jamasp Dastur, Amit Agrawal, Parto Forouhi, John Benson. *Addenbrooke's Hospital, Cambridge, United Kingdom*;

Introduction: Skin-sparing mastectomy (SSM) has emerged as standard approach for immediate breast reconstruction irrespective of type without compromise of oncological outcomes. Published rates of local recurrence range from 1.7% - 7% at 5 years. SSM maximizes cosmetic outcomes whilst minimizing breast deformity and scarring.
Patients and Methods: A retrospective analysis was undertaken of SSM patients with invasive (stage 1 – III) or non-invasive breast cancer treated between January 2006 and January 2010 in a single institution (minimum 5 years follow up). Data were extracted for 250 patients and included all reconstruction types (implant only, implant assisted latissimus dorsi and abdominal flaps). Data analysis employed Kaplan-Meier curves (proportional hazards) and log rank statistic test.
Results: At a median follow up of 104 months (range 83 – 132) 8 patients have developed local recurrence (3.2%) one of whom presented with concomitant local and distant disease recurrence. A further 31 patients (12.4%) relapsed with regional (5) or distant disease (26) involving bone, lung, liver or brain. Local recurrence involving the chest wall was most commonly associated with grade II tumours or high grade DCIS, lymphovascular invasion and node positivity, whilst distant recurrence was more frequent for grade III tumours. Approximately half of all types of recurrence received either adjuvant or neoadjuvant chemotherapy.
Conclusion: SSM is an oncologically safe procedure with acceptable rates of local recurrence at 5 years which are comparable to published rates for conventional non-SSM forms of mastectomy. Careful patient selection is essential with excision of skin overlying the tumour when clinically involved.

21
THE EFFECT OF CLINICAL AND TUMOUR FACTORS ON PROGNOSIS AFTER CONTRALATERAL BREAST CANCER (CBC) IN NORTHERN IRELAND (NI)

Colin McIlmunn [1], Finian Bannon [2], Deirdre Fitzpatrick [3], Kienan Savage [1], Stuart McIntosh [1]. [1]*Centre for Cancer Research and Cell Biology, Belfast, United Kingdom*; [2]*Centre for Public Health, Belfast, United Kingdom*; [3]*Northern Ireland Cancer Registry, Belfast, United Kingdom*;

CBC incidence is 0.4-0.7% per year after primary tumour diagnosis. Understanding factors affecting survival could provide better personalisation of treatment options for these women.
In this study, CBC patients diagnosed between 1993-2016 were identified from the NI Cancer Registry. Matched unilateral breast cancer controls were identified. Regional ethical approval was obtained and clinicopathological data curated, with breast cancer-specific mortality provided by the NI Statistics Research Agency. Kaplan-Meier survival estimates and Cox regression analysis were used to evaluate effects of factors on survival using SPSS v23.
403 cases and controls were available. Median age at primary diagnosis was 57 years. Hazard ratio for death in the CBC cohort was 2.10 compared with controls ($p<0.01$). In the CBC cohort, poorer survival was observed in women with <5 years between primary tumour and CBC ($p<0.001$), and in women with a primary tumour before the age of 40 (<40 years HR 1, 40-60 years HR 0.38, >60 years HR 0.75). Advanced primary and CBC T-stage ($p<0.001$, $p=0.004$ respectively), N-stage ($p<0.001$, $p<0.001$), grade ($p=0.019$, $p=0.006$) along with CBC ER negativity ($p=0.007$) also correlated with adverse outcome.
These data are consistent with previous studies, confirming young age at primary diagnosis and shorter inter-tumour interval as poor prognostic factors. This may suggest a proportion of CBCs may be metastatic, and that some patients may have underlying breast cancer germline risk predisposition mutations. Archival tissue from this cohort will be used for next generation sequencing studies to investigate factors affecting CBC development and survival at an individual level.

22
INTERNAL MAMMARY NODES IN DIEP RECONSTRUCTION: DO THEY MATTER?

Tania Policastro [1], Natalie To [1], Jennifer Rusby [1], Paul Harris [2], Peter Barry [1]. [1]*Royal Marsden NHS Foundation Trust, London, United Kingdom*; [2]*The London Clinic, London, United Kingdom*;

Introduction: Metastatic involvement of internal mammary chain (IMC) lymph nodes is prognostic in early breast cancer. The aim of this study was to investigate the incidence of IMC nodal involvement at the time of DIEP reconstruction and its treatment implications.
Methods: Patients who underwent IMC node removal during DIEP reconstruction at the Royal Marsden Hospital (immediate or delayed) were identified from a prospectively maintained database. The pathological status of the IMC nodes was correlated with change in treatment and outcome.
Results: A total of 1214 patients underwent 1776 DIEP flap reconstructions between June 2006 and July 2016 of whom only 176 had internal mammary nodes excised. Of the 72 immediate reconstructions, 12 had positive IMC node(s) of which 3 had already undergone neoadjuvant chemotherapy and 8 went on to receive adjuvant chemotherapy and 5 had IMC radiotherapy following surgery. Three of these patients died after systemic relapse. Rates of neoadjuvant and adjuvant chemotherapy (10% and 18% respectively) were significantly lower ($p<0.05$) in the IMC negative cohort. Only six of 104 in the delayed DIEP group had positive IMC nodes and they all subsequently underwent further chemotherapy and/or radiotherapy yet 2 of these patients died of recurrent disease.
Conclusions: Of those patients with positive IMC nodes in the immediate DIEP setting several had modified or de novo radiotherapy to include the IMC. For the delayed cohort, of the small minority with metastatic IMC node(s), outcomes despite further systemic therapy were poor. Our study is limited by small numbers.

23
TREATMENT PATTERNS FOR UNILATERAL, NON-INVASIVE BREAST CANCER IN WOMEN DIAGNOSED IN ENGLAND: DATA FROM A POPULATION-BASED COHORT

Yasmin Jauhari [1], Melissa Gannon [1,2], Jibby Medina [1], Karen Clements [3], Kieran Horgan [4], David Dodwell [4], David Cromwell [1,2]. [1]*Clinical Effectiveness Unit, Royal College of Surgeons, London, United Kingdom*; [2]*Department of Health Services Research and Policy, London School of Hygiene and Tropical Medicine, London, United Kingdom*; [3]*National Cancer Registration and Analysis Service, Public Health England, Birmingham, United Kingdom*; [4]*Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*;

Introduction: Population-based studies of non-invasive breast cancer in older women are infrequently reported. We evaluated the management of ductal carcinoma in situ (DCIS), in women aged >=70yrs compared to those aged 50 – 69yrs, as part of the National Audit of Breast Cancer in Older Patients (NABCOP).
Methods: Women aged >=50yrs, diagnosed with unilateral, DCIS in England between 01/01/2014–30/06/2015 were identified from a linked dataset of BC patients from the national cancer registry, Hospital Episode Statistics (HES) and the national radiotherapy dataset (RTDS). Multilevel models were used to account for clustering in the data.
Results: Among 56,876 women aged 50+yrs diagnosed with BC, 10% (n=5,901) were diagnosed with DCIS; the proportions decreased with age, 14% (n=4,649) 50 - 69yrs compared to 6% (n=1,252) >=70yrs.
There were 3,805 women with DCIS managed with breast conserving surgery (BCS), but it was less common in the older group (67% 50-69yrs; 54% >=70yrs). 26% of women in each age group had mastectomy. Of those

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managed with BCS, 64% and 49% of women aged 50 - 69yrs and >=70yrs, respectively, had subsequent radiotherapy.
The proportion of women with DCIS who had no surgery reported was higher amongst older patients (7% 50 - 69yrs; 20% >=70yrs). The association between age and no surgery remained after accounting for disease grade, Charlson Comorbidity Index, deprivation and clustering within geographical region.
Conclusion: There are clear differences in the management of DCIS amongst older women. NABCOP will explore the reasons for these differences and highlight areas for improvement by hospital services.

24
VALIDATION OF A NOMOGRAM USING READILY AVAILABLE CLINICOPATHOLOGIC VARIABLES TO PREDICT ONCOTYPE DX SCORE IN THE PREOPERATIVE SETTING

Roisin M. O'Cearbhaill [1], Liam Devane [1], Chwanrow Baban [1], Damian McCartan [1], Denis Evoy [1], Jane Rothwell [1], James Geraghty [1], Cecily Quinn [2], Janice Walshe [3], Enda McDermott [1], Ruth S. Prichard [1]. [1]*Department of Breast Surgery, St. Vincent's University Hospital, Dublin, Ireland*; [2]*Department of Pathology, St. Vincent's University Hospital, Dublin, Ireland*; [3]*Department of Oncology, St. Vincent's University Hospital, Dublin, Ireland*;

Background: A recently published nomogram has been used to predict high and low risk Oncotype DX (ODX) scores according to both commercial and TAILORX cut-off values. The nomogram uses six variables derived from the surgical excision specimen: age, tumour size, tumour grade, progesterone receptor status, lymphovascular invasion and histologic type of breast cancer. The aim of this study was to assess whether this nomogram could be utilised preoperatively to predict either a high or low oncotype DX score.
Methods: During the study period, 678 eligible patients underwent ODX testing in our institution. Clinicopathologic variables derived from diagnostic biopsy and preoperative imaging were applied to the nomogram to predict high and low risk commercial and TAILORX cut-values. Area under the receiver operating characteristic (ROC) curve was determined for each outcome.
Results: Our patient cohort was comparable to that used in developing the original nomogram. Using the commercial cut off values, the c-index for predicting a high risk Oncotype DX score (31-100) was 0.899 (0.849-0.950 95% CI) and for predicting a low risk score (0-17) was 0.898 (0.846-0.950 95% CI).
Using the TAILORX cut off values, the c-index for predicting a high risk Oncotype DX score (26-100) was 0.844 (0.788-0.900 95% CI) and for predicting a low risk score (0-10) was 0.847 (0.792-0.902 95% CI).
Conclusion: The accuracy of this nomogram in predicting a high ODX score preoperatively may help identify patients with estrogen receptor positive disease who will require chemotherapy and guide the selection of these patients for neoadjuvant chemotherapy.

Tuesday 19th June 2018, Session 22: Submitted Papers. 14:40 to 16:10

25
TARGETED AXILLARY LYMPH NODE DISSECTION IMPROVES THE ACCURACY OF AXILLARY ASSESSMENT

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Introduction: Selective axillary lymph node (LN) dissection has proven to have less morbidity than axillary LN clearance. This can be feasible in low burden axillary LN metastatic disease. However, Sentinel Node Biopsy (SNB) alone confers a high false negative rate. Targeted metastatic LN excision along with dual technique SNB can reduce this false negative result. We present our experience with this combined method using two methods of targeting the metastatic LN: wire guided and radioactive (I-125) iodine seed localisation. The aim of this study is to ascertain if localisation of the metastatic LN improves accuracy over SNB alone.
Methods: All patients who had successful metastatic LN localisation between June 2016 & December 2017 were included. All patients underwent dual technique sentinel node biopsy and targeted metastatic LN excision using either wire guided or I-125 seed localisation. Data was collected retrospectively.
Results: There were 26 patients. Median age was 57 years (39 – 78). Nine patients underwent wire guided LN localisation and 17 patients had I-125 seed localisation along with dual technique sentinel node biopsy.
In 16 (61.5%) cases the metastatic node was not identified by the SNB alone. Six of the cases had additional metastatic node identified by the SNB. Twelve patients had neoadjuvant treatment, 10 (83%) of them had resolution of the disease in the marked node and one patient had partial regression.
Conclusion: A combination of targeted axillary dissection and dual technique sentinel node biopsy is required to ensure adequate axillary staging in a pre-operative positive axilla.

26
EXPLORING THE EFFECTS OF AN EXERCISE PROGRAMME ON WOMEN WITH BREAST CANCER

Ruth McCrea [1], Chris McNamara [2], Ashraf Patel [1]. [1]*Princess Alexandra NHS Trust at St Margaret's Hospital, Epping, United Kingdom*; [2]*The Royal Marsden School, The Royal Marsden NHS Trust, London, United Kingdom*;

Introduction: Considerable evidence is emerging to suggest that regular physical activity plays an important role in improving physical function, quality of life and reducing the risk of recurrence following a breast cancer diagnosis. Despite these benefits, women with breast cancer are known to reduce their activity during treatment and afterwards. Further research is needed to explore what type of interventions will help these women to become more active.
Methods: This small qualitative study explored if offering an exercise programme would encourage the women to become more physically active. A fitness instructor trained to CanRehab (cancer rehabilitation) level 4 led the sessions. Eight participants consented to attend these sessions and were interviewed prior to and after the classes were completed to explore their experiences. The Braun and Clarke (2006) six phases of thematic analysis were used to interpret the data.
Results: The main study outcomes suggest that exercising with women in the 'same boat', with a specially trained instructor and being informed of the importance of regular physical activity could help and support women to become more active. Seven out of the eight women continued to be active a year after completing the programme.
Conclusions: Further funding has enabled the programme to continue. All patients are now being informed of the importance of regular physical activity. A service evaluation has been carried out to continue to explore the effects of the programme with over 72% of respondents wishing it could continue and now a further class is running in the community.

27
NEOADJUVANT CHEMOTHERAPY AND SURGICAL PLANNING: SURVEY OF PRACTICE, ATTITUDES AND OPINIONS AROUND THE UK

Belinda Pearce, Siobhan Laws, Richard Rainsbury. *Royal Hampshire County Hospital, Winchester, United Kingdom*;

Introduction: Neoadjuvant chemotherapy (NACT) is increasingly prescribed. However, recent meta-analysis shows an increase in local recurrence after NACT highlighting a need for clarity of aims, indications and outcomes of NACT including survival, recurrence and quality of life. This survey aims to capture a snapshot of current beliefs and surgical practice following NACT.
Method: A link to the 10 question survey on SurveyMonkey was posted on the ABS website in June 2017. A link was also mailed to members of the Mammary Fold.

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Results: There were 80 respondents. Reason for the use of NACT was variable (see Table 1) with only 1 responder not recommending NACT. There was a lack of concordance in prediction of tumour response and thus type of post-NACT surgery offered. There was little attempt to preoperatively determine planned resection limits. Pre operative marker clips were widely used (67%).

Table 1

Indication	89% downsize to facilitate surgery	50% assess tumour response to chemotherapy	19% change chemotherapy regime in non-responders	29% prioritise treatment of occult metastases
Surgery: partial response	18% resect original footprint	65% believe response depends on tumour type		
Surgery: complete response	77% resect marker with margin	13% resect original footprint		
Post NACT assessment	76% MRI	41% ultrasound	29% mammogram	
Margin analysis	7% pre-operative margin biopsies	4% intra-operative margin biopsies	55% intra-operative specimen radiology	

Conclusion: This survey shows that there is a wide variation around the country in surgical practice after NACT. Prospective studies and collaborative audits are needed to define best practice and acceptable safety profiles, without survival detriment.

28
EVALUATION OF THE BREAST CANCER HAVEN SUPPORT SERVICE EMBEDDED WITHIN A NHS BREAST UNIT

Caroline Hoffman [1,2], Steven Thrush [2], Barbara Baker [1]. [1]*Breast Cancer Haven, London, United Kingdom*; [2]*Worcestershire Acute Hospitals NHS Trust, Worcester, United Kingdom*;

Introduction: A novel personalised, in-depth integrated support service was established by the national charity, Breast Cancer Haven (BCH), in a dedicated breast unit. The charity-funded service operates one day a week, comprising BCH's core support programme (health professional assessment, five hours of individual therapy time, re-assessment) with self-management tools for healthy living activities. In the first 21 months, 250 people with breast cancer used the service (27.5% of diagnoses in Worcestershire, higher than in BCH centres).
Methods: A service evaluation of people who used the BCH support programme from March 2016 to November 2017 was conducted using a study-specific 15 item questionnaire to explore user experience. The data was analysed using descriptive statistics.
Results: 84 questionnaires (34% of users) were completed. In common with users of BCH stand-alone centres, 96% found the programme important/very important in helping with their experience of breast cancer. BCH therapies were rated as very helpful for physical side effects (e.g. pain, hot flushes) and emotional issues (e.g. stress, anxiety) by 82% users. The most accessed therapies were acupuncture, reflexology and hypnotherapy; all therapies, except nutritional therapy, were rated as very helpful by 77-100% users. The majority (94%) found the environment excellent, and received appointments when needed (94%).
Conclusions: Integration of third sector support services into a NHS breast unit is acceptable and has enhanced quality of life, supporting the Living With and Beyond Cancer objective. Its success has led to the opening of another service in a London hospital with further services planned.

29
THE ROLE OF PECTORAL NERVE (PECS) BLOCKS IN A DAY CASE MASTECTOMY SERVICE

Ashleigh Bell, Oroog Ali, Amitabh Aggarwal, Mike Blundell, Alice Townend, Sebastian Aspinall. *Northumbria NHS Foundation Trust, Newcastle-upon-Tyne, United Kingdom*;

Introduction: Simple mastectomy for breast cancer is increasingly being performed in the day case setting with multiple patient and institutional benefits. This study aimed to evaluate the effect of regional pectoral nerve (PECS) blocks compared with general anaesthesia and local anaesthetic skin infiltration on post-operative pain and length of stay in patients undergoing mastectomy in a symptomatic breast unit.
Methods: We performed a prospective patient survey on 53 patients undergoing simple mastectomy (with or without an axillary procedure) between 2014 and 2016. Demographics, method of anaesthesia (PECS block vs general anaesthesia alone), visual analogue scores of post-operative pain at 4 and 8 hours and length of stay were analysed.
Results: A total of 53 female patients were included in the cohort. One patient who received a paravertebral block was excluded. Mean pain scores at 4 hours were significantly lower in the PECS (2.59) vs no PECS (4.9) group ($p=0.0047$). This remained true at 8 hours; PECS (1.98) vs NO PECS (3.8), ($p=0.0011$). 82% of patients receiving additional regional PECS blocks were successfully performed as a day case procedure as opposed to 8% receiving general anaesthesia alone ($p=0.0001$). There was also reduced nausea and vomiting and less opiate use in the PECS group.
Conclusions: The use of additional PECS blocks can significantly reduce post-operative pain for patients undergoing mastectomy. This combined with effective goal setting at the pre-assessment stage can enable units to achieve high rates of day case procedures.

30
AN AUDIT OF REFERRAL PATTERNS TO A BREAST NEW REFERRAL CLINIC

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Introduction: The Nottingham Breast Institute assessed 8500 new 2 week wait patients last year, an increase of 5% from 2015-16. The conversion rate to a cancer diagnosis remains consistent at approximately 10% indicating that rising demand includes significant increases in benign breast conditions. This has clear capacity and financial implications, as all patients with breast symptoms must be seen within a two week time frame to comply with national targets. The aim of this project was to identify how many referrals could have been managed in primary care.
Methods: Data was collected for patients attending the clinic over a four month period. Referral pro formas were analysed to identify key themes.
Results: 20% of patients were deemed suitable for initial management in primary care avoiding unnecessary referrals to the breast clinic and increased anxiety. The most common presenting symptoms seen were breast pain, nipple discharge and nipple eczema. The majority of breast pain patients had had no treatment prior to referral. Referral forms were confusing to use, resulting in forms with missing or irrelevant information.
Conclusion: We have identified a large proportion of patients that could be managed in primary care, avoiding the associated anxiety of a referral and relieving pressure on the system. Better education and communication links with GPs are required. A streamlined and simplified pro forma, which includes advice and guidance, could empower GPs in their decision making regarding the best care pathway for this group of patients.

31
PREFERENCE FOR QUALITY OF LIFE VERSUS LENGTH OF LIFE IN OLDER WOMEN MAKING TREATMENT DECISIONS IN EARLY BREAST CANCER

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Introduction: Prioritising quality of life (QoL) or length of life (LoL) may influence cancer treatment choices, particularly in older patients with poor baseline health status and life expectancy.
Methods: Bridging the Age Gap (BTAG) is a multi-centre prospective observational study recruiting older women with early breast cancer ≥70 years. Validated quality/quantity questionnaire (QQQ) was used to assess QoL versus LoL preference. This was correlated with treatment choice and pre-treatment QoL (EORTC-QLQ-C30). Statistical analysis was done using ANOVA and Cronbach's α.
Results: This study was an amendment to the BTAG involving 52 breast units. The QQQ involved a subgroup of participants who consented to further studies. 192/308 (62%) patients responded. 147 had surgery (S), 33 had adjuvant chemotherapy (SC) and 12 had primary endocrine therapy (PET). Median age varied by therapy type (S:75, SC:73 and PET:83.5 (P<0.0001)) as did comorbidity and frailty levels, being worst in PET patients (p<0.001). Baseline global QoL scores were similar between treatment groups despite health variance (S: 79, SC: 78and PET: 76 (P value 0.79)). PET patients prioritised QoL and LoL equally (Cronbach's α 0.9 vs 0.9). Surgical patients prioritised LoL over QoL (0.88 vs 0.79). Chemotherapy patients significantly prioritised LoL over QoL (0.88 vs 0.67). There was no correlation with baseline QoL scores and preference for LoL.
Conclusion: LoL was valued more than QoL in women choosing more morbid treatments. Perceived importance of LoL gains versus QoL is an important determinant of treatment choice in older women with breast cancer.

32
RELIEVING THE PAIN OF THE NEW REFERRAL CLINIC

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Background: A recent audit identified 13% (63/496) of 2 week wait referrals to The Nottingham Breast Institute were due to pain which could be managed in primary care. Best practice guidelines for referral were not being followed. The cause for pain was musculoskeletal in the vast majority of cases. 58 patients had received no initial treatment prior to referral. No patients with breast pain in the absence of a palpable mass had any significant pathology. Many patients experienced significant anxiety that they had breast cancer and were not given appropriate reassurance and advice by their GPs.
Methods: Communications were sent to all GP practices with advice on referral guidelines and the management of breast pain with particular emphasis on its benign nature. The existing referral proformas were reviewed and found to be confusing and difficult to use. Redesigned proformas were produced and disseminated. The proformas were streamlined and simplified, initial management advice was included and a clear route for advice and guidance provided.
Result: A significant and sustained reduction in the number of referrals has been achieved. Referrals for breast pain have more than halved, now constituting only 5.9% of total demand.
Conclusion: Simple measures can have a significant impact on the number of patients requiring assessment for breast pain in secondary care. GP education and clear communication has been key and feedback has been positive, empowering primary care to reassure where appropriate and ensuring best use of specialist services.

Abstracts for poster presentation at the Association of Breast Surgery Conference, 18th & 19th June 2018, ICC Birmingham

P001
SALVAGE OF THE FAILED IMPLANT BREAST RECONSTRUCTION USING THE DEEP INFERIOR EPIGASTRIC PERFORATOR FLAP. A SINGLE CENTRE EXPERIENCE WITH TERTIARY BREAST RECONSTRUCTION

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Whilst immediate implant based reconstruction is portrayed as an attractive option for young patients, the longevity and durability of implant based reconstruction are limited and many patients who develop complications are now seeking alternative reconstruction. Recent studies have shown tertiary reconstruction to be reliable in the short term. But no study has looked in depth at the motivation for referral or the long-term outcome.
This was a retrospective study using patient case-notes and a prospectively-collated database. 152 patients underwent tertiary breast reconstruction with a DIEP between 1998 and 2016.
Mean age was 49 (23-67). The predominant initial reconstruction was expander (72.1%), but 27.9% received a definitive reconstruction (implant with ADM/LD). 71.9% of patients received PMRT to their implant. 34% of patients underwent surgical salvage prior to referral for autologous tissue and this was significantly higher in the group that did not receive PMRT (29% vs 40% P = 0.04).
Predominant motivation for autologous reconstruction was poor cosmesis 62% and III/IV Capsular Contracture 40%. Mean time from implant to DIEP was 4 years 5 months. 10% had complications requiring re-operation. Flap loss was 0.7%. 55% required an additional ipsilateral procedure and 47% required symmetrization.
We present the largest UK series of tertiary breast reconstruction. Tertiary reconstruction is safe with surgical outcomes comparable to delayed autologous reconstruction. We advocate careful consideration of implants in the setting of PMRT and early referral for autologous tissue once complications become apparent.

P002
A COMPARISON OF PROMS FOLLOWING TERTIARY (SALVAGE) DIEP BREAST RECONSTRUCTION VS DELAYED DIEP BREAST RECONSTRUCTION USING THE BREAST-Q

Will Holmes, Marcus Quinn, Stephen Ali, Ahmed Emam, Chris Davis, John Dickson, Wilson Sherif, Elena Prousskaia. *Department of Plastic Surgery, Southmead Hospital, Bristol, United Kingdom*;

When complications of implant-based breast reconstruction occur, many patients request salvage using autologous tissue. A recent audit of our tertiary reconstruction patients found that many regretted having immediate reconstruction with an implant. We hypothesize that patients who undergo tertiary DIEP reconstruction have a worse overall satisfaction than patients who undergo delayed DIEP reconstruction.
We performed a matched case-controlled comparison study of patient satisfaction following tertiary breast reconstruction and delayed breast reconstruction. Breast-Q Questionnaires were completed pre-op, 2-weeks and 3-months post-op. Mean scores for five breast-Q domains were compared using student 2-tailed t-test for dependent variables.
56 patients were included in the study. The tertiary reconstruction group showed significantly improved Breast-Q scores across 4 domains at 3-months post op. The delayed group showed non-significant improvement in 2 domains. Physical abdomen well-being was lower at 3-months than compared to pre-op for both groups (P<0.05)
When we compared groups we found that the delayed group showed higher scores at 3-months and this was significant for sexual and psychosocial wellbeing (67.3 vs 50.9, 73.5 vs 80.6 both P<0.05).

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This the first study to look at tertiary breast reconstruction using a validated patient reported outcome measure. Tertiary reconstruction offers improved satisfaction but not as high as those who elect to have delayed reconstruction.
This information is important in patients faced with reconstructive decisions, especially in the setting of PMRT when complications of immediate implant reconstruction are high.

P003
VALIDATED OUTCOMES IN THE GRAFTING OF AUTOLOGOUS FAT TO THE BREAST– THE VOGUE STUDY: DEVELOPMENT OF A CORE OUTCOME SET FOR RESEARCH AND AUDIT STUDIES

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Introduction: Autologous fat grafting (AFG) is important part of the reconstructive surgeon's toolbox when dealing with women affected by breast cancer and subsequent tumour extirpation. The debate over safety and efficacy continues to rage within the literature. However, work performed by our group has shown significant heterogeneity in outcome reporting. Core outcome sets (COS) have been shown to reduce heterogeneity in outcome reporting. Our goal was to develop an AFG COS for breast reconstruction.
Methods: We published our protocol apriori. A Delphi consensus exercise amongst key stakeholders was conducted using the long list outcomes generated through our previous work. These were divided into six domains previously identified; oncological, clinical, aesthetic and functional, patient-reported, process and radiological.
Results: In the first round 71% (55/78) of participants completed the DELPHI Consensus exercise. Consensus was reached on nine of the 13 outcomes. The clarity of the results and lack of additional suggested outcomes deemed further rounds unnecessary.
Conclusion: The VOGUE Study has led to the development of a much-needed COS in the active research front and clinical area of AFG. We hope that clinicians will use it to audit their practice and researchers and authors will use to help them design and write up their efficacy and safety studies of AFG. We encourage journals and surgical societies to promote their adoption and encourage their use to help the scientific quality of the debate, the discourse and the literature going forward.

P004
ONCOPLASTIC TECHNIQUES: ATTITUDES AND CHANGING PRACTICE AMONGST BREAST AND PLASTIC SURGEONS IN GREAT BRITAIN

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Purpose: The availability, acceptibility and practice of oncoplastic surgery has increased over the last 5 years. This study aims to describe how the breast and plastic surgical workforce has adapted to provide oncoplastic breast surgery.
Methods: A questionnaire was distributed to members of the Association of Breast Surgery and BAPRAS, and results compared to a survey completed in 2010.
Results: In 2010, 228 respondents completed the survey compared to 237 in 2015, of whom 204 were consultants (105 General or Breast Surgeons and 99 Plastic Surgeons). The range of procedures performed by Plastic Surgeons has remained static, the General and Breast Surgeons are performing proportionally more therapeutic mammaplasty ($p < 0.001$), breast reduction/mastopexy, and latissimus dorsi reconstructions. In 2015, surgeons are less concerned about the risks of lipomodelling than in 2010, with an increase in the proportion of breast (55% vs. 26%) and plastic (91% vs. 58%) surgeons performing the technique.
Discussion: Specific concerns about oncoplastic surgery have decreased over the last five years, with a greater proportion of surgeons performing oncoplastic surgery including lipomodelling. The majority of breast surgeons in 2015 remain interested in further training in oncoplastic techniques (75%) but over the last 5 years, plastic surgeons interest in further training in oncoplastic surgery has dropped from 62% to 27%. About half of all breast and plastic surgeons felt that oncoplastic surgery should be available for all women and oncological and wound healing concerns had significantly reduced between 2010 and 2015 ($p < 0.05$).

P005
MRI FOR INVASIVE LOBULAR CARCINOMA: IS IT WORTH IT?

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Background: Invasive lobular carcinoma (ILC) of the breast can provide diagnostic and therapeutic challenges due to its often mammographically occult and multifocal nature. UK guidelines recommend MRI to assess for such lesions in patients being considered for breast conserving surgery (BCS). A small number of studies have shown that due to its low specificity MRI can lead to additional invasive investigations whilst rarely identifying additional tumour foci that affect management. We carried out a retrospective study of patients diagnosed with ILC to assess the impact of MRI on management and to assess if breast density on mammogram could indicate the likelihood of additional disease being found on MRI.
Methods: A retrospective analysis of the electronic patient record for all cases of ILC between January 2013 and December 2016 was carried out.
Results: 110 cases of ILC were identified of which 52 patients were considered for BCS and 43 (83%) underwent MRI. A further abnormality was seen in 16 (37%) of patients of whom 8 (50%) had further core biopsy after additional ultrasound assessment with only 1 positive for malignancy. Overall MRI changed the surgical plan from BCS to mastectomy in 3 (7%) of patients. There was no association between mammographic density and MRI findings ($p = 0.13$).
Conclusion: In our practice MRI rarely identifies additional disease foci and rarely alters management away from BCS. Based on these data mammographic density cannot be used to rationalise the use of MRI in ILC patients. Larger prospective studies may provide further guidance.

P006
ASYMPTOMATIC DISTANT METASTASES ON ROUTINE STAGING IN BREAST CANCER AND THE POSSIBLE PREDICTORS RELATED TO METASTATIC DISEASE

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Our study assessed the incidence of breast cancer with metastases at presentation, and the probable factors related to metastatic disease.
Between August 2015 and 2017, there was a total of 465 patients diagnosed in our institution with breast cancer. 21 patients were diagnosed with systemic metastases at presentation. 5 patients were diagnosed with metastatic disease and breast cancer was found to be the primary tumour later. 15 patients were found to have metastases on staging investigations after the diagnosis of breast cancer was confirmed. Amongst the latter group, 13 patients had a locally advanced breast cancer, 1 patient had bilateral early breast cancer, and 1 patient developed a new breast cancer ten years after treatment of a previous breast cancer. In the metastatic group, only 5 patients were triple negative; 3 patients were HER 2 positive with the remaining 13 patients being ER positive and HER 2 negative.
In our study, the overall incidence of metastatic disease on staging investigations for a newly diagnosed breast cancer was 4.5%. There was no correlation between tumour biology in early breast cancer and the chance of finding systemic metastases. The higher likelihood of metastases from

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breast cancer remains the presence of a locally advanced breast cancer at diagnosis. Therefore, we have abandoned staging in all newly diagnosed breast cancers, limiting it to those with an advanced breast cancer, bilateral breast cancer, a recurrent breast cancer or any sinister symptoms that may related to another synchronous cancer.

P008

COMPARING THE OUTCOME OF DIFFERENT BIOLOGICALLY DERIVED ACELLULAR DERMAL MATRICES IN IMPLANT BASED IMMEDIATE BREAST RECONSTRUCTION: A META-ANALYSIS OF THE LITERATURE

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Acellular dermal matrices (ADMs) has been used extensively in implant-based breast reconstruction. It was reported that due to the different sources and processing methods, the outcomes of ADMs in implant-based breast reconstruction are expected to differ. We designed this study to statistically analyse and discuss outcome of 3 common ADMs, Alloderm, Strattice and Surgimend, in implant-based breast reconstruction.
A comprehensive review of the literatures searched on electronic databases was done to identify studies published between 2006 to 2017 comparing the outcome of ADMs. A pooled random effect estimates for each complication and 95% confidence interval calculated. Fishers exact test was used to compare statistical significance in groups with the best and worst outcomes. R statistics was used for forest plot.
22 studies met the inclusion with a total of 1659, 999 and 912 breasts reconstructions in Alloderm, Strattice and Surgimend respectively. 8 complications extracted including major and minor infection, seroma, skin necrosis, implant loss, haematoma, capsular contracture and localised erythema. Pooled total complication rates were 30.43% (95% CI 27.59%-33.28%) in Strattice, 24.05% (95% CI 21.99%-26.11%) in Alloderm, 23.79% (95% CI 21.03%-26.56%) in Surgimend. Seroma rate was highest in Strattice group (8.61%; 95% CI 6.87%-10.35%). There was statistical significance in all complications except minor infections (p=0.065) in Strattice vs Alloderm. Although Strattice exhibited a higher overall pooled complication rate compared to Alloderm and Surgimend, the incidence of individual complication varies between studies. A cost analysis of different ADMs may aid in choosing the type of ADMs.

P009

PLEOMORPHIC LOBULAR CARCINOMA IN SITU, WHAT DO WE KNOW? A UK MULTICENTER AUDIT

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Aims: Pleomorphic lobular carcinoma in situ (PLCIS) is a relatively newly described pathological lesion that is distinguished from classical LCIS by its large pleomorphic nuclei. The lesion is uncommon and its appropriate management has been debated. The aim of this study is to review data from a large series of PLCIS to examine its natural history in order to guide management plans.
Materials and Methods: Comprehensive pathology data were collected from two cohorts; one from a UK multicentre audit and the other a series of PLCIS cases identified from within the GLACIER study cohort. 179 cases were identified of whom 176 had enough data for analysis.
Results: Out of these 176 cases, 130 had invasive disease associated with PLCIS, the majority being of lobular type (classical and/or pleomorphic). A high incidence of histological grade 2 and 3 invasive cancers was noted with a predominance of ER positive and HER-2 negative malignancy. When PLCIS was the most significant finding on diagnostic biopsy the upgrade to invasive disease on excision was 31.8%, which is higher than pooled data for classical LCIS and DCIS.
Conclusion: The older age at presentation, high grade of upgrade to invasive cancer, common association with higher grade tumours suggest that PLCIS is an aggressive form of *insitu* disease. These findings support the view that PLCIS is a more aggressive form of lobular in situ neoplasia and supports the tendency to treat akin to DCIS.
For full article please see; Masannat YA, Husain E, Roylance R, Heys SD, Carder PJ, Ali H, Maurice Y, Pinder SE, Sawyer E, Shaaban AM. Breast. 2018 Apr;38:120-124. doi: 10.1016/j.breast.2017.12.011. Epub 2018 Jan 5. PMID: 29310036.

P011

IMPACT OF MRI ON HIGH GRADE DUCTAL CARCINOMA IN SITU (HG DCIS) MANAGEMENT: ARE WE USING THE FULL SCOPE OF MRI?

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Introduction: Preoperative assessment of pure Ductal Carcinoma In situ (DCIS) is essential in the surgical planning. The role of Magnetic resonance imaging (MRI) has long been debated. The impact of MRI on management of High Grade (HG) DCIS was assessed in comparison to conventional imaging.
Method: Ninety-one consecutive patients with HG DCIS were identified from a prospectively collected data April 11 - Dec 15. All patients had preoperative MRI in addition to the standard breast imaging. This was compared to a control group of consecutive patients (n=52). Impact on surgical planning and number of surgeries for each patient was compared. The size of HG DCIS on MRI was compared to histological size.
Results: MRI group had 91 patients. MRI sensitivity to detect HG DCIS was 77% (70/91) with a false negative rate FNR of 23% (21/91). Therefore, 70 patients only were included in the data analysis. Control group included 52 screening patients.
Re-excision rates were higher in the control group 26% compared to 8% in the MRI group (P-value 0.012).
MRI use correctly converted the initial plan of breast conservation to mastectomy in 9 patients (13%). Five patients had additional ipsilateral malignant features (7%).Occult contralateral disease was diagnosed in 2 patients (3%).
Conclusion: MRI could be an important tool in reducing the re-excision rates in the surgical management of HG DCIS. Although still controversial, selective MRI imaging can be useful in the preoperative diagnosis and evaluation of HG DCIS. Case by case discussion at MDT is crucial.

P012

THE POST MONTGOMERY ERA: A NEW MODEL OF CONSENT FORMS FIT FOR PURPOSE

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Introduction: The Supreme Court case of Mongomery vs Lanarkshire Health Board (2015) changed informed consent; however, few departments have updated their consent form. This project sought to improve documentation of consent to comply with RCS Consent: Supported Decision−Making guidelines (2016). It involved audit cycles to monitor Quality Improvement and implementing a standardised consent form for Breast Surgery operations in a UK Breast Unit.
Methods: An initial baseline audit of consent forms (n=22) was undertaken after approval from the hospital audit department (CA_2016-17-193). It recorded completion rate and legibility of all sections of consent forms and recorded what 'risks of procedure' were documented. A new consent form was created to comply with RCS guidelines; re-audit was performed (n=22) and patient feedback gained.
Results: Initial audit showed that in the 'risks of procedure' section, completion was 95%, legibility was 77% and 'risks' documented for the same procedure varied between consent forms. A new, pre-printed standardised

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consent form was introduced; completion and legibility improved to 100%, and eliminated variability in documentation of 'risks'. It included new sections compliant with RCS guidelines- a contact name and number, alternatives to procedure proposed, and an area to address and document patient-specific concerns. Patient feedback was highly favourable.
Conclusion: We have demonstrated that standardised consent forms improve completion, legibility and reduce variability in risks consented for. We present a new model of consent form in line with RCS guidelines that provides a stimulus for the discussion of patient-specific considerations and gives an improved patient experience of consent.

P013
A SYSTEMATIC REVIEW AND META-ANALYSIS OF MASTECTOMY VERSUS REPEAT BREAST-CONSERVING SURGERY IN THE TREATMENT OF IPSILATERAL BREAST TUMOUR RECURRENCE

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Introduction: Mastectomy is currently the standard treatment for ipsilateral breast tumour recurrence (IBTR) following breast conserving treatment (BCT). However, patients who initially underwent BCT may desire repeat breast conserving surgery (rBCS). A systematic review of the literature and meta-analysis was performed to review the evidence base for the surgical management of IBTR.
Methods: We undertook a systematic Pubmed, Medline, and reference search. Only articles that compared Mastectomy (Mx) to rBCS and had no significant differences in baseline tumour characteristics between groups were included. Primary outcome measure was Distant Disease Free Survival (DDFS).
Results: The search returned 285 studies; after title and abstract review there were 6 relevant articles; reference review identified two further relevant articles. Only two articles with a total of 338 patients were deemed suitable for inclusion in the pooled analysis. Baseline tumour characteristics were not significantly different ($P > 0.05$) between the two treatment groups (Mx vs rBCS) in either study. In one study there was a significantly different proportion of patients treated with adjuvant chemotherapy (Mx=61% vs rBCS=31%; $P<0.001$). Pooled analysis showed no significant difference in relative benefit in 5 year DDFS between the groups of Mx vs rBCS (1.06 (random effect); 95% CI=0.86–1.32)
Discussion: This systematic review demonstrates the paucity of good quality data regarding the comparison of surgical treatment of IBTR. Meta-analysis of the relevant literature suggests that rBCS could be an equivalent treatment to Mx in the surgical management of IBTR, however prospective studies directly comparing treatments are necessary.

P014
IMPROVING THE MANAGEMENT OF PATIENTS WITH SECONDARY BREAST CANCER–AN HOLISTIC NURSING APPROACH

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Traditionally patients with secondary breast cancer are informed of their diagnosis by their oncologist and will normally have a repeat scan every 3 months to determine the effectiveness of treatment. Their holistic needs are not usually addressed unless the patient is obviously struggling. The breast care nursing team therefore decided to address this gap in care, in line with the introduction of treatment summaries for primary breast cancer treatments, enabling those less obvious needs to be addressed and allowing patients to move forward.
A 45 minute appointment was therefore introduced for this group of patients; the focus of which is on identifying and addressing any unmet needs using an holistic needs assessment tool and then informing the patients about their results and plan of care to date, as well as any side-effects from either their current or past treatments. They are also informed about signs and symptoms that could indicate further recurrences or progression. This process will then be repeated if there are any changes to the patient's condition.
Initial patient feedback has been extremely positive.

P015
SHORT TERM FOLLOW-UP OF ELDERLY PATIENTS WITH TRIPLE NEGATIVE EARLY BREAST CANCER

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Introduction: In elderly patients with ER positive cancer, endocrine blockade is a treatment option but in ER negative cases, surgery may be the only treatment available. We report our Trust's 3 year experience of treating consecutive elderly patients with early triple negative breast cancer (TNBC).
Methods: All patients above 70 years of age with TNBC diagnosed between September 2013 and August 2016 were identified retrospectively from the pathology database. Data on ASA grade, surgical procedure, adjuvant treatment and follow-up, including recurrence and death, were collated.
Results: Out of 47 patients with early TNBC, 2 refused surgery and 3 patients were not fit for a general anesthesia. Thus 42 of 45 willing patients underwent surgery (93%) and are included in the analysis. Out of the 19 patients (45%) who underwent breast conserving surgery (BCS), 89% had adjuvant radiotherapy. Eleven patients (26%) had axillary clearance. Adjuvant chemotherapy was offered to 11 patients (26%), but only seven (16%) accepted systemic treatment. After a median follow-up of 17 (range: 6-40) months, 37 patients (88%) were alive without systemic disease. One patient died within 90 days of surgery.
Conclusion: 93% of those agreeable to surgery were operated on and survived over 30 days with no perioperative complications. During this short term follow-up, the majority of women were alive and cancer free, despite not necessarily receiving "gold standard" systemic treatment. We advocate offering patient centered surgical intervention to this group of patients and hope that this data will inform their decision making.

P016
THE ONCOPLASTIC MASTECTOMY– A UNIT'S EXPERIENCE

Sadaf Jafferbhoy, Nasrullah Muhammad, Michelle Mullan, Rachel Bright-Thomas, Steven Thrush. *Worcester Royal Hospital, Worcester, United Kingdom*;

Introduction: The oncoplastic mastectomy uses the inframammary fold as the lower border of the skin ellipse removed as part of the simple mastectomy. The benefit of this technique is in the delayed placement of pedicled or free flaps in breast reconstruction. The concern with this technique is that the length of superior flap may increase the risk of flap necrosis. We report our patients' outcome who underwent simple mastectomy using an oncoplastic scar.
Methods: All patients who underwent simple mastectomy from January 2011 to December 2013 were identified from the Pathology database. Only patients who had the inferior flap marked at the inframammary crease were included in this study. Data on demographic details, co-morbidities and post-operative complications was recorded retrospectively.
Results: Sixty-six patients with a mean age of 71 (range: 39 -96) years and a mean BMI of 26.5 (range: 17-42) kg/m^2 were included in this study. Eight patients (12%) were diabetics, seven (11%) were current smokers and eight patients (12%) had previous radiotherapy. Five patients (7%) had failed breast conserving procedure. Seroma and haematoma were most commonly noted complications (70% and 16% respectively). Six patients (9%) developed wound infection requiring antibiotics and one patient (1%) had wound infection requiring debridement. None of our patients developed skin flap necrosis.
Conclusion: In our experience, an oncoplastic approach for a simple mastectomy is a safe technique. In patients with previous surgery, a low scar placement may not be possible but a proper planning does not increase the risk of flap necrosis.

P017
IS THE VARIANT OF UNCERTAIN SIGNIFICANCE (VUS) RATE IMPORTANT IN GENETIC TESTING FOR BREAST CANCER?

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Introduction: Patients with a variant of uncertain significance (VUS) following at-diagnosis genetic testing for breast cancer have increased stress and anxiety. VUS rates for BRCA testing are reported to be low, but VUS rates for multi-gene pan-cancer panels are reported to be much higher with a published VUS rate of 36.7% for Myriad myRisk®. The aim of this study was to review the VUS rate for BRCA1/BRCA2 & BreastGene tests provided by GeneHealth UK.
Methods: The GeneHealth UK results for all patients having genetic testing for breast cancer in 2016-2017 were reviewed to analyse the number with pathological mutations as well as VUS rate. Testing was performed according to NICE guidelines. Results were collated for BRCA1/BRCA2 versus BreastGene.
Results: Of a total of 325 tests, 155 (48%) had BRCA1 & BRCA2 tested, and 170 (52%) had the 10-gene panel. Of the 155 BRCA tests, there were 16 (10%) pathological mutations and 0 patients had a VUS. Of the 170 BreastGene panel tests, there were 16 (9%) pathological mutations with a VUS rate of 14% (n=23), including variants in BRCA1, BRCA2, ATM, CDH1, CHEK2, PALB2, TP53 & STK11.
Conclusions: The VUS rate for BRCA1/BRCA2 testing alone remains extremely low at <1%. The use of breast cancer-associated multi-gene panels (BreastGene) does increase the VUS rate (14%), but not as high as for published rates of multi-gene, multi-cancer panels (c40%). These results should be considered when selecting appropriate at-diagnosis testing for breast cancer, and when planning how results should be delivered.

P018
CRITERIA FOR PATHOLOGICAL COMPLETE RESPONSE (PCR) AND ITS IMPACT ON RELAPSE RATES IN BREAST CANCER PATIENTS UNDERGOING NEO-ADJUVANT CHEMOTHERAPY

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Introduction: Pathological complete response (pCR) is used as an endpoint in various neoadjuvant trials for breast carcinoma. To date, there is no universally accepted definition of pCR, which has made reporting and interpretation of data challenging. Our objective was to establish an association between different types of pCR and event-free survival (EFS) in breast cancer patients undergoing neo-adjuvant chemotherapy (NACT).
Methods: Data of 504 breast cancer patients undergoing NACT followed by surgery between 1995 - 2014 were analysed. Rates of pCR in primary only (ypTo) and pCR in both primary and axilla (ypToNo) were calculated and relapse rates during follow-up were documented. An analysis was performed to elucidate the relationship between relapse rates in pCR vs non pCR patients using 2 different pCR criteria. STATA software was used for data analysis.
Results: Out of 504 patients receiving NACT:113(22.42%) achieved pCR in primary (ypTo) and 68 (13.4%) achieved pCR in both primary and axilla (ypToNo). Using pCR criteria 1 (ypTo) 35 had recurrence out of 113 patients (30%), in comparison 178 had recurrence among 390 patients (45.64%) who didn't achieve pCR[p=0.007]. Using pCR criteria 2 (ypT0N0) 16 had recurrence out of 68 patients (23.53%), whereas 197 out of 436 patients (41.51%) had recurrence who didn't had pCR[p=0.02].
Conclusion: pCR rates vary significantly using different pCR criteria. Frequency of pCR decreased with usage of increasingly stringent criteria (ypT0=22.42%vs ypT0N0=13.4%). Overall patients who achieved pCR had less recurrences than non-pCR patients. While both ypT0 and ypT0N0 were associated with relatively low relapse rates, ypT0 has stronger association with decreased relapse rates.

P019
CAUSES OF DELAY AND RISK OF FAILURE TO COMPLETE INVESTIGATION FOLLOWING ABNORMAL MAMMOGRAPHY

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Methods: Retrospective audit was undertaken of women recalled for assessment following mammography to ascertain timeliness of appointment, reasons for delay, outward migration and loss to follow up.
Results: 5,677 mammograms were performed between January 2016 and December 2016.
75 patients (1.3%) required recall and 47 subsequently attended (62.6% compliance). 31 were normal or benign, 8 had cancer, 4 had indeterminate histopathology, 3 were allocated future follow up and 1 was diagnosed with implant rupture.
57% attended within 1 week, 90% attended within 6 weeks and the remaining 5 patients attended within 6 months.
Of the 28 patients who did not attend, 10 were lost to follow up (13% of those recalled) and 18 attended alternative providers (25% of those recalled).
Of 10 lost to follow up, 5 were patient choice, 1 had no insurance and 4 resulted from lack of primary care response.
Reasons for delay or failure to complete recommended investigations included patient choice, lack of access to prior mammograms, availability of tissue sampling and problems with insurance or GP agreement.
Conclusion: Despite best efforts, there is a risk that some women will fail to attend for further assessment. It is inevitable that a small number of these will subsequently be diagnosed with breast cancer.
Medico-legal precedent places significant responsibility on the reporting radiologist to ensure completeness of follow up. Robust audit and recall protocols are recommended to ensure appropriate follow up after abnormal mammography in order to avoid risk of subsequent litigation for delayed diagnosis of breast cancer.

P020
MANAGEMENT OF FEAR OF CANCER RECURRENCE BY BREAST CARE NURSES AND POTENTIAL TO DELIVER A BRIEF TELEPHONE INTERVENTION

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Introduction: Fear of recurrence (FoR) is one of the commonest concerns for women following treatment for breast cancer. A brief version of the AFTER psychological intervention has been developed for delivery by breast care nurses (BCN). However, it is unclear whether BCNs see this as part of their role or whether they would utilise such an intervention.
Methods: To assess BCN views on managing FoR and the potential to deliver the Mini-AFTER intervention we surveyed members of the UK Breast Cancer Care Nursing Network. Members were emailed a link to a web-based survey, which assessed how FoR is currently identified and managed as well as BCNs willingness to deliver the Mini-AFTER.
Results: The original email was opened by 272 BCN members of whom 108 clicked on the survey link and 90 completed the survey. Most had worked with breast cancer patients ≥11 years (70%) and were educated to degree level or above (85%). All respondents reported they provide information, support clinical decision making, offer counselling and crisis management. Nevertheless only 14% discuss FoR routinely, with 22% using a FoR-specific assessment tool. Less than a quarter (21%) had received specific training in managing FoR. Three-quarters stated that they would attend a day training course on providing the Mini- AFTER intervention.
Conclusions: We have identified that only a small proportion of experienced BCNs routinely discuss FoR and few have had training on managing FoR concerns. Most expressed interest in managing FoR and were willing to be trained in providing the Mini-AFTER.

P021
A RANDOMISED CONTROLLED TRIAL OF DUCT ENDOSCOPY IN PATHOLOGICAL NIPPLE DISCHARGE

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Introduction: Although breast cancer may present with pathologic nipple discharge, the majority of cases are benign. Conventional surgery to nipple ducts is undirected; targeting any causative lesion by duct endoscopy (DE) may enable more accurate surgery with fewer complications.
Patients and Methods: Patients were randomised to have DE prior to standard surgery. 68 breasts were studied in 60 patients, 32 breasts in the duct endoscopy (DE) and 36 in the non-duct endoscopy (NDE) group. Any causative lesion identified was localized for excision. The aims were: (a) to quantify successful visualisation of a pathological lesion in those randomized to DE; (b) to compare the causative pathology yield in both groups.
Results: The median age was 49 (19-81) years. The follow-up was 5.4 (IQR 3.3-8.9) years in the DE group and 5.7 (IQR 3.1-9.0) years in the NDE group. The success of endoscopy in identifying any lesion was: sensitivity 80% (95% CI 51.9-95.7), specificity 70.6% (44.0-89.7), PPV 70.6 (44.0-89.7) and NPV 80% (51.9-95.7). Diagnostic DE was not more likely to result in improved histologic yield: any lesion p=0.143, papilloma p=0.305, duct ectasia p=0.628. The median volume (IQR) of the surgical resection specimen did not differ between groups, p=0.577.
Conclusions: DE is a useful tool in the identification of causative abnormalities. Benign papillomas are the commonest identifiable source of nipple discharge. The pathological yield of a benign or malignant diagnosis, surgical resection size and complication rates were not influenced by pre-operative duct endoscopy.
(PPV and NPV=positive and negative predictive value, IQR=interquartile range)

P022
THE IMPACT OF SELECTIVE PRE-OPERATIVE MRI ON OUTCOMES OF BREAST CONSERVING SURGERY IN EARLY BREAST CANCER

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Introduction: The role of pre-operative MRI imaging for early stage breast cancer remains controversial with randomised data showing no benefit over standard triple assessment for clinical outcomes including reoperation rates. MRI for invasive lobular carcinoma (ILC) is reported to reduce re-excision rates following breast conserving surgery (BCS). This study has explored the impact of selective MRI on rates of re-excision after BCS.
Methods: A retrospective analysis was undertaken of 358 patients undergoing BCS with (n=98) or without (n=260) selective use of pre-operative MRI according to single institution local policy. Data were collected on age, lesion size, type and grade, surgical procedures and pathology for each group. Additional surgical procedures following initial BCS included either re-excision or completion mastectomy. Statistical analysis used chi-squared testing.
Results: Amongst 98 BCS patients undergoing MRI, further breast surgery was performed in 14 (14%) consisting of either margin re-excision (6%) or completion mastectomy (8%). This compared with only 5.5% of 260 BCS patients not receiving MRI amongst whom 9 had margin re-excision (3.5%) and 5 completion mastectomy (2%) [p<0.01]. Median tumour size was greater in the MRI group (19mm versus 16mm) which had a higher proportion of ILC (34% versus 4%) and multicentric/multifocal cancers (25% versus 9%). Half of completion mastectomy patients had ILC.
Conclusion: Ironically selective use of MRI is associated with increased re-operation rates due to greater local extent of disease and multicentricity. Better understanding of the overall impact of MRI on clinical practice is essential to minimize operative delays and patient anxiety.

P023
NETWORK DELIVERY OF AUDITED PRIVATE, ONE STOP DIAGNOSTIC BREAST CLINICS

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Introduction: The safety and accountability of private breast cancer diagnostics and treatment has recently been questioned. The aim of this study was to review the clinical and operational results from a national network of private one-stop breast clinics delivered by BreastHealth UK.
Methods: BreastHealth UK operates a UK network of private diagnostic one-stop breast clinics (n=63), delivered by 41 consultant breast surgeons who are all ABS members. All clinics provide core biopsy-based same-day triple assessment, with a breast radiologist present in clinic. Clinical, imaging & biopsy results are entered prospectively online to allow individual and collective review.
Results: From 1.1.16 to 31.10.17, 1013 symptomatic patients had same day triple assessment, of which 47% had mammography (43% bilateral; 4% unilateral) & 75% had breast ultrasound (unilateral 40%; bilateral 35%). 123 patients underwent breast biopsy (12%), of which 29 were malignant (3%). The average time to the first appointment attended was 3.8 days, & the average feedback score was 99/100.
Conclusions: This diagnostic pathway provides rapid access to same day triple assessment for all private symptomatic patients (NICE quality measure =100%), with high patient satisfaction and prospective data collection to ensure compliance with the pathway. These results are not dissimilar to a Cambridge NHS dataset of 14,000 patients, where 66.3% had mammography and 65.3% had breast ultrasound, with a biopsy rate of 7% and the differences are almost certainly explained by the older demographic of the NHS patients (Britton et al, Br J Radiology 2012; 85: 415-422).

P024
DIAGNOSTIC ACCURACY AND YIELD OF STEREOTACTIC AND TOMOSYNTHESIS GUIDED BREAST CORE BIOPSY

Soek Leng Mui, Laura Starr, Gillian Hutchison. *Manchester University NHS Foundation Trust, Manchester, United Kingdom*;

Introduction: Stereotactic 14G core biopsy has been traditionally used to sample abnormalities visible on mammography only or with subtle USS. With the advent of breast tomosynthesis core biopsy is now also performed under tomosynthesis guidance. This audit assesses the diagnostic yield and accuracy of stereo versus tomosynthesis guided biopsy.
Methods: An audit standard was set at 95% based on stereo core biopsy figures[1]. Retrospective audit of 86 patient; 43 patients underwent stereo biopsy and 43 underwent tomosynthesis guided biopsy. The imaging and biopsy results were reviewed.
Results: Stereo biopsy had a 100% accuracy and diagnostic yield. Tomosynthesis biopsy had an 84% accuracy and diagnostic yield.
Conclusion: The tomosynthesis guided biopsies tended to be of more subtle lesions including distortions and almost half led to a further biopsy using a vacuum technique. Results suggest that when considering tomosynthesis guided biopsy for subtle asymmetry or distortion that it may be more appropriate to use a first line vacuum assisted biopsy (VAB) rather than standard 14G core.
Reference:
[1] Verkooijen, H.M. (2002) Diagnostic accuracy of stereotactic large-core needle biopsy for non-palpable breast disease: results of a multi-center prospective study with 95% surgical confirmation. International Journal of Cancer. 99(6), 853-9.

P025
AN OVERVIEW OF THE BENEFITS OF NEAR INFRARED FLUOROSCOPY LYMPHATIC IMAGING (NIRFLI) IN BREAST CANCER PATIENTS

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Introduction: Current literature demonstrates that lymphoedema affects between 5 - 40% of the breast cancer population. Near Infrared Fluoroscopy Lymphatic Imaging (NIRFLI) is used to identify the earliest lymphatic failure, assist diagnosis and optimise manual lymphatic drainage (MLD). This technique, is used to identify lymphatic drainage pathways and offers early identification of lymphoedema assisting in risk reduction measures.
Methods: Patients receive an intradermal injection of 0.02ml of Indocyanine green into the 1st and 4th web space of the hand and using a near infra-red camera the lymphatic vessels can be visualised. Using a specific protocol, outcomes are recorded using video and photography and the identified pathways are drawn on the patients for reference. Consent is gained from all patients.

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Results: Following the NIRFLI of 60 patients, audit has taken place to assess the direction of lymphatic pathways. Within MLD, patients are drained on historical anatomical pathways. Data analysis provides evidence of 50% upper limb patients have pitting, 50% have hand swelling, 18% drain to the clavicle and 77% drain to the operated axilla. With 30% patients draining their hand in a non anatomical diversion pathway.
Conclusion: NIRFLI is becoming more commonly used for the assessment, diagnosis and reduction of lymphoedema or other conditions. This audit presents the results of real-time imaging pathways which have changed lymphoedema treatment. It alters advice provided to the patient regarding self-management. Knowledge of the frequency of pathways allows for the process of MLD to be designed to provide the most efficient treatment session and improves cost effectiveness.

P026
UTILISING LYMPHOEDEMA RISK REDUCTION MEASURES FOLLOWING NEW EVIDENCE

Jane Wigg. *LymphVision, Staffordshire, United Kingdom and Lymphoedema Training Academy, United Kingdom*;

Introduction: The emergence of Near infrared Fluoroscopy Lymphatic Imaging (NIRFLI) has allowed for the earliest detection of Lymphoedema. The visualisation of lymphatics and nodes in real time provides information of the pressures and activities required to empty lymph-nodes, drain the lymphatic system and understand the occlusion pressure of the lymphatics. This knowledge has altered the information that should be provided to people who have undergone breast cancer surgery for lymphedema risk reduction.
Methods: Following breast cancer, many patients are provided with risk reduction measures to prevent lymphoedema. NIRFLI has allowed for the understanding of how to better manage lymphoedema and slow down or stop its progression. Following the imaging of patients, Information was collated, and an improved and easier self-management programme has been designed.
Results: The earliest lymphatic failure can be detected using NIRFLI before. A logical researched based approach has adapted the positions and movements used during new Fluoroscopy Guided Manual Lymphatic Drainage (FG-MLD) to ensure ease of application. Advice regarding nodal pressure, exercise advice and changes in early treatment could reduce lymphoedema burden.
Conclusion: FG-MLD has provided the opportunity to modify the advice provided on exercise and self-lymphatic drainage. The 'movement and drainage' technique has been introduced to patients and has been received positively with the ease of application. The reasons for and introduction of this simplified programme, in addition to other risk reduction factors, such as NIFRLI screening, encourages supported self-management.

P027
SETTING UP FRAILTY ASSESSMENT FOR WOMEN WITH BREAST CANCER AGED 75+ AND A REFERRAL PATHWAY FOR COMPREHENSIVE GERIATRIC ASSESSMENT

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Background: With an increasing number of older women being diagnosed with breast cancer and with poorer mortality rate for patients over the age of 75 there is a national strategy for improving the outcomes that the NHS delivers to this patient group.
A need has been identified to improve a comprehensive pathway which will include frailty screening and comprehensive geriatric assessment to older and frailer patients being diagnosed with cancer and undergoing treatment.
Materials and Methods: In 2017 - 70 women aged 75 and above were diagnosed with breast cancer in our Breast Unit. A recommendation of a Quality Improvement Project led to the use of the Edmonton Frail Scale (3) to carry out frailty assessment and 84% (59 patients) were assessed and based on the frailty score 15% (nine women) were referred for a Comprehensive Geriatric Assessment (CGA). The Breast Multidisciplinary Meeting utilises the results of the assessment when planning the appropriate treatment for the individual patient.
Results/ Outcomes: Since April 2017 a direct pathway from the breast unit to the frailty unit (geriatrician-led service) for a Comprehensive Geriatric Assessment (CGA) at Princess Alexandra NHS Trust Hospital has been set up for patients who are assessed as being pre-frail to severely frail.
In 2017, 59 patients (84%) were assessed for frailty. 15 patients (25%) were pre-frail to severely frail. Nine patients (15 %) underwent a CGA before commencing breast cancer treatment.
Conclusion: Frailty Assessment and Comprehensive Geriatric Assessment are now embedded into our practice and supports the MDT decision process.

P028
BREAST PAIN REFERRAL FROM PRIMARY CARE TO A LOCAL BREAST CLINIC: WHAT ARE THE CURRENT GUIDELINES AND ARE THEY BEING FOLLOWED?

Roshneen Ali, Jill Donnelly. *Wye Valley NHS Trust, Hereford, United Kingdom*;

Introduction: National guidelines recommend that isolated breast pain (IBP) should be managed in primary care, with analgesia, optimum bra-fitting and review and should be referred if symptoms persist, although duration is not specified. This study evaluates the findings in women who attend their GP with IBP and are referred to secondary care. It assesses compliance with guidelines.
Methods: Relevant data about women referred with IBP between July 2015 and January 2017 were recorded in a dedicated database.
Results: 231 women (22% of all referrals) met the inclusion criteria. They fell into 2 groups:
In 83 cases, (36%) the GP elicited a sign (lump in 80, nipple inversion in 3) denied by the patient. In 80 (96%) these were not confirmed by the breast clinician. In 3 cases a lump was confirmed in the clinic, found to be benign and not at the painful site. In this group, 44 (53%) were referred as suspected cancer.
In 148, (64%) the GP agreed that IBP was the only symptom. In these 20 (8.7%) were offered analgesia, 10 (4.3%) bra fitting and 41 (7.8%) review. 22% were referred within a month of symptom onset. 21 (14%) were referred as suspected cancer.
No malignancy was detected in either group.
Conclusion: IBP is not a symptom of cancer. GPs have a tendency to "over-detect" signs. Referral guidelines are often not followed. Guidelines can safely recommend that pain regardless of duration should have a trial of treatment for 6 weeks prior to referral.

P029
HIGHER RATE OF THERAPEUTIC MAMMOPLASTY AND ITS IMPACT ON IMMEDIATE BREAST RECONSTRUCTION AND QUALITY PERFORMANCE INDICATORS

Sameena Rashid, Subodh Seth, Rory Gibson, Jennifer McIlhenny, Richard Clark. *Forth Valley Hospital, Larbert, United Kingdom*;

Introduction: Scottish breast cancer quality performance indicators set a target of 25% for immediate breast reconstruction in patients undergoing mastectomy for breast cancer. There may be good reasons for individual patients not to undergo immediate reconstruction but this indicator is intended to demonstrate that they have access to a reconstructive service. The aim of this study is to review this group of breast cancer patients.
Methods: Electronic data of patients diagnosed with breast cancer who underwent mastectomy +/- immediate reconstruction over a 12 month period were identified and reviewed.
Results: 188 breast cancers were diagnosed in this period. 89 patients (47%) underwent breast conserving surgery, 67 patients (36%) underwent mastectomy and 10 of these patients had immediate breast reconstruction resulting in performance indicator of 15%. Of the 57 patients who underwent mastectomy, 35 patients (61%) were excluded due to patient choice, 11(19%) were unsuitable for reconstruction and 1 patient (2%) had metastatic disease. In those undergoing breast conservation, 10 patients (5%) initially referred for mastectomy and immediate reconstruction opted for therapeutic mammoplasty.

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Conclusion: Patients undergoing therapeutic mammoplasty should be included when calculating performance indicators as traditionally they would have been treated with mastectomy and immediate reconstruction. In this study, the inclusion of this group of patients would have raised the quality performance indictors to the target range. Therefore access to immediate reconstruction was not the barrier to this procedure in this unit.

P031
VACUUM-ASSISTED BIOPSY– A COMPARATIVE STUDY BETWEEN UPRIGHT AND PRONE TABLE ASSISTED BIOPSY

Asma Munir, Anita Huws, Ali Moala, Sujatha Udayashankar, Helen Williams, Yousuf Shariaha, Saira Khawaja, Simon Holt. *Prince Philip Hospital, Llanelli, United Kingdom*;

Introduction: Vacuum-assisted breast biopsy (VABB) using a dedicated prone table has been a reliable method for sampling impalpable, sonographically occult mammographic lesions. However, the prone table biopsy system uses a lower resolution 2D stereotactic localisation rather than digital breast tomosynthesis (DBT) available in the upright system.
Objective: In this study, we looked at the accuracy and complication rates of VABB performed on the prone table versus the upright DBT guided system.
Methods: 413 patients had vacuum assisted breast biopsy performed between 2010 and September 2017. The initial 212 patients had the procedure performed on a prone table and the subsequent 201 patients had the procedure on the upright system. The histopathology findings, any further surgery and complications were recorded for each group.
Results: There was no difference between the two groups with regard to age, laterality, radiological classification, concordance rate or the upgrading of the pathology. The patients undergoing vacuum-assisted biopsy on upright DBT had on average much smaller lesions as compared to prone table (13.67 mm vs. 24.59 mm, p=0.00). The surgeon and patient satisfaction with the DBT guided system was higher than prone position. There were two technical failures with prone table and one with upright. One patient developed hematoma with each technique.
Conclusion: Vacuum-assisted breast biopsy (VABB) is quicker with higher operator and patient satisfaction. The higher resolution and larger window of the receptor plate allows for smaller lesions to be biopsied when compared to performing the same procedure on the prone table.

P032
USE OF NEOADJUVANT ENDOCRINE TREATMENT IN BREAST CANCER PATIENTS IN A SINGLE INSTITUTION OVER 5 YEARS

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Introduction: Neoadjuvant endocrine (NAE) treatment is a well established pathway in oestrogen receptor (ER) positive breast cancer. There is less information available about the influence of the progesterone receptor (PR). This study examines a single centre prospective series of patients undergoing NAE treatment.
Methods: Data were analysed from a prospectively maintained spreadsheet of all neoadjuvant patients. To fulfill the criteria the patient and surgeon deemed surgery to be part of the treatment pathway from the onset.
Results: 59 patients between 2013 and 2017 had NAE treatment in our centre. Table 1 shows the demographics. The treatment aim was to reduce the degree of surgery in 61%.

Table 1

	Number	%
No of patients	59	
Mean age	67	
Grade 1 and 2	51	86.44
Grade 3	8	13.56
Invasive ductal carcinoma	49	83.05
ER 7/8	59	100.00
PR 6/8	45	76.27
PR 0-3	12	20.34

Median size of the tumour preoperatively was 25mm (range 5-58 mm). Postoperative median size was 22mm (range 8-58mm). Only 2 patients had a complete pathological response. Of the 12 patients who were PR 0-3, 9 tumours did not change or increased in size. Of the 36 patients who had a pre-treatment plan for mastectomy 17 (50%) underwent successful breast conservation. None of the PR 0-3 patients had their initial surgical treatment plan changed.
Conclusion: NAE treatment with careful monitoring and correct patient selection can increase breast conservation. Despite small numbers we suggest further work is necessary to look at the influence of progesterone receptor positivity on patients undergoing NAE.

P033
TRANEXAMIC ACID REDUCES THE RISK OF HAEMATOMA IN MASTECTOMY

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Introduction: The use of intraoperative tranexamic acid (TXA) is established in orthopaedic surgery to reduce blood loss. Haematoma is a low risk but significant complication of breast surgery – particularly in implant-based reconstruction as it increases the risk of explantation.
Aim: To assess the impact of intraoperative TXA on haematoma rate in mastectomy and breast reconstruction
Method: Computer operative records were used to generate a list of mastectomies with and without reconstructions coded for a single surgeon between 2012 and 2017. Anaesthetic records were reviewed to identify which patients had received TXA 1g IV (a practice commenced July 2014 in those without contraindications). Operative records identified those that had returned to theatre for haematoma evacuation and breast nursing records were reviewed to identify any conservatively managed haematomas.
Results: 304 mastectomies +/- reconstruction were identified, 144 with TXA and 160 without. 7.5% (12/160) of those without tranexamic acid developed haematoma (of which 6 required surgical evacuation, 2 were aspirated and 4 managed conservatively) vs 2.1% (3/144) of those who had received tranexamic acid (of which 2 underwent surgical evacuation and 1 was managed conservatively). Chi-squared statistical analysis demonstrated significance p=0.0295.
Conclusion: Intraoperative tranexamic reduces the risk of haematoma in mastectomy and should be considered for use routinely in those without contra-indications, particularly in reconstruction.

P034
PROPHYLACTIC BIPEDICLED NIPPLE SPARING WISE PATTERN MASTECTOMY AND PREPECTORAL IMPLANT/ ADM BREAST RECONSTRUCTION IN LARGE PTOTIC BREASTS; TECHNIQUE AND OUTCOMES

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Introduction: Nipple sparing mastectomy (NSM) with simultaneous prepectoral direct to implant reconstruction and acelluar dermal matrix (ADM) is increasingly offered to patients opting for risk reducing mastectomies. The recent introduction of prepectoral implant/ADM in the aramantarium of breast reconstruction has proven to reduce pain and animation deformity. Despite this promising method, patients with macromastia and ptotic breasts remain a challenging group to treat. More often they would require secondary corrective procedures and can experience high failure rate and unsatisfactory outcomes. The authors present their experience in utilizing a bipedicled nipple areola complex dermal flap through Wise pattern to achieve a successful NSM with prepectoral implant/ADM (Braxon) as a single stage in patients with large ptotic breasts.
Methods: Patients seeking prophylactic NSM with large ptotic breasts were included in the study between 2016 and 2017. They were offered a single stage wise pattern bipedicled nipple areola complex dermal flap mastectomy and prepectoral implant/ADM breast reconstruction. The technique and outcomes were recorded.

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Results: Sixteen reconstructions were performed in 8 women with a median age 32 years (range 27–50) and a median body mass index of 32kg/m^2 range (29-35). The resected breast's weight ranged from 750–1300 grams (median 890). All procedures were completed successfully with no failure or nipple areola complex losses during the follow up period (range 3–14 months). All patients reported excellent satisfaction.
Conclusion: The author's results demonstrate that this technique could be safely planned for risk reduction NSM with excellent durable outcomes.

P035
A REVIEW OF THE PROVISION OF CHEMOPREVENTION IN A BREAST CANCER FAMILY HISTORY CLINIC

Kate Foster, Ashraf Patel. *Princess Alexandra Hospitals NHS Trust, Harlow, United Kingdom*;

Background: NICE Familial Breast Cancer guidance issued in 2004 (updated 2006 and 2013) led to the establishment of a family history clinic at Princess Alexandra Hospitals NHS Trust.
Following an update to the NICE Guidance in 2013, we began offering Tamoxifen as chemoprevention to patients at moderate or high risk of breast cancer. Following the further update in March 2017, we have been providing our patients with the NICE Patient Decision Aid and selected patients are given the option of Anastrazole as a chemoprevention agent.
Materials & Methods: Patients attending the family history clinic at St Margaret's Hospital are categorised into either population, moderate and high-risk groups as per NICE guidelines. Providing there are no contraindications, patients in the moderate and high-risk groups are given verbal and written information on chemoprevention.
Results: Chemoprevention was offered to 272 patients. Prior to the introduction of the NICE patient decision tool, only 16% of patients offered chemoprevention agreed to commence treatment. This has now increased to 19.85%. A concern regarding side effects is the most frequently reported reason for declining chemoprevention.
Conclusion: The uptake of chemoprevention amongst our patients is much higher than the nationally reported uptake of 8 to 10%. More work is needed to further increase the uptake of chemoprevention.
Audit approval obtained from Princess Alexandra Hospitals NHS Trust Patient Safety & Quality dept. reg 3355.

P036
TEN YEARS OF A FAMILY HISTORY CLINIC: THE EXPERIENCE OF MODERATE AND HIGH-RISK PATIENTS IN A BREAST CANCER FAMILY HISTORY CLINIC

Kate Foster, Ashraf Patel. *Princess Alexandra Hospitals NHS Trust, Harlow, United Kingdom*;

Background: The establishment of a dedicated family history clinic followed NICE guidelines issued originally in 2004. The clinic adapted in line with guidance updates in 2013 and 2017.
Materials and Methods: The clinic was set up with a grant from QUEST cancer research charity. Family history referrals came from GPs or breast clinicians. A patient questionnaire assisted in creating a pedigree. Initially pedigrees were hand written, but FaHRAS software has been used since 2009. Using the NICE guidelines, women were categorised into population, moderate and high risk groups and managed accordingly. In 2015 a nurse-led clinic opened for urgent assessment of new patients with breast cancer.
Results: Up to August 2017 1880 new patients were assessed in the family history clinic, not including 298 declined as assessed to be population risk at triage.
Of those assessed in clinic 261 are population risk, 726 moderate risk, and 893 fell into the high risk group.
671 were seen by the genetics service, 334 were offered testing. 313 have been tested for BRCA 1/2 alterations. 44 BRCA 1 and 46 BRCA 2 mutation carriers were identified. 40 had risk-reducing surgery.
Conclusion: The clinic provides a comprehensive service encompassing timely breast cancer risk assessment, clinical and radiological assessment, appropriate counselling and health education, and support through case discussion at the regional risk-reducing mastectomy multi-disciplinary team meeting.
There is consistently high demand for the service.

P037
EFFECT OF FORMALIN FIXATION ON VOLUME OF BREAST CONSERVING SURGERY SPECIMENS

Ahmed Salman Bodla, Seema Salehi-Bird, Robert Kirby, Sekhar Marla, Sankaran Narayanan, Soni Soumian. *University Hospitals of North Midlands, Stoke-on-Trent, United Kingdom*;

Introduction: Certain body tissues show significant volume change after formalin fixation. In breast conserving surgery (BCS), this might have implication on margin clearance, and therefore, on re-excision rates and disease recurrence. This single-centre prospective study looked at the effect of formalin fixation on BCS specimen volume, factors governing volume change, and its impact on margin clearance.
Methods: Between January and August 2017, volumes of 120 WLE specimens were calculated based on medio-lateral, supero-inferior and antero-posterior dimensions both pre- and post-fixation. Data about mammographic density, margin clearance, and tumour size were collected.
Results: 86% of specimens underwent significant bidirectional volume change post-fixation with percent volume change (%VC) ranging from -58% to +143%. Out of 120, 53% expanded (median %VC: 46, IQR: 26 to 75) while 33% shrank (median %VC: -26, IQR:-31 to -19). Direction of volume change was mainly governed by initial specimen size; expanding specimens were significantly smaller with a median volume of 63cm^3 (IQR:45-90) as compared to 137cm^3 (IQR:73-219) for shrinking specimens ($p<0.0001$; Mann-Whitney U-Test). Regression analysis showed 120cm^3 to be the cut-off volume determining direction of %VC. Neither BIRADS density nor tumour size or type affected %VC. Margins were involved in 18% of specimens; however, specimen shrinking did not significantly increase margin involvement (RR=1.38, 95% CI=0.64 - 2.96, $p=0.4$).
Conclusions: Speed and completeness of the fixation process which in turn depends on the specimen-to-formalin volume ratio as well as relative surface area of specimens, may explain the observed effect of specimen size on direction of volume change.

P038
IMPACT OF DECISION-MAKING ON OUTCOMES OF PRIMARY ENDOCRINE THERAPY FOR OPERABLE BREAST CANCER IN THE ELDERLY

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Introduction: Primary endocrine therapy (PET) is a widely used means of treating oestrogen receptor positive breast cancer in the elderly, enabling frail patients to avoid surgery. As a long-term treatment option it has been shown to be inferior to surgery in controlling local disease. Decision making in these patients is crucial in avoiding treatment failure. We examined the influence of decision-making on outcomes of PET.
Methods: Consecutive patients treated with PET between 2005 and 2015 for operable breast cancers were included in a retrospective observational study in 3 breast centres in the North East. Treatment decision processes were examined by case note review and outcomes of treatment success or failure recorded.
Results: 488 patients were included with mean follow up 31 months. Overall 63 (12%) experienced treatment failure. 227 (46.6%) were given a choice between surgery and PET at diagnosis. Logistic regression identified older age [OR 0.94 (0.91 to 0.96) p <0.001] and wheelchair users [OR 0.6 (0.37 to 0.97) p 0.036] were to be less likely offered surgery. Those offered surgery were less likely to die without experiencing treatment failure [SHR 1.78 (1.05 to 3.02) p 0.033].
Conclusion: Despite a low failure rate in our series (literature failure rates vary between 12 and 85%), these results demonstrate that those

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actively offered a choice between surgery and PET are at greater risk of failure. This suggests if patients are fit enough for surgery, then they should have it.

P039

DOES THE TIMING OF WIRE LOCALISATION IMPACT ON DAY-CASE PROCEDURES?

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Background: Wire guided Wide Local Excision (WLE) remains a commonly performed day-case or '23-hour stay' procedure. The aim of this study is to determine the proportion of patients undergoing wire guided WLE staying longer than 23 hours and whether the timing of wire insertion impacts length of stay.
Methods: All consecutive patients under the care of a single consultant who underwent a wire guided WLE from April 2014 to April 2017 were included in the audit.
Results: A total of 126 patients underwent wire guided wide local excision. The median age was 62.5 years old (IQR 53.0-68.0 years). Of the total population, 24 patients stayed beyond 23 hours (n=24/126, 19.1%). Of these, six remained in hospital either due to comorbidities, social circumstances or post-operative events (myocardial infraction in one patient). However, 18/126 patients (14.3%) stayed beyond the 23 hours due to delay in wire insertion on day of procedure. Across the study population, the median length of stay was 10.0 hours (IQR 9.0-13.0 hours). Amongst those who stayed overnight (n=24), the median LOS was significantly longer at 26.0 hours (IQR 25.0-27.0 hours, p=<0.001).
Conclusion: Over this 3-year period, approximately one in seven patients who undergo a wire guided WLE will end up staying more than 23 hours due to delays in wire insertion on day of surgery; in this group, the median length of stay is closer to 26 hours. Wire insertion the day before may reduce the proportion of patients staying longer than 23 hours.

P040

A PROPOSED STRATEGY TO IMPROVE THE SURGICAL MANAGEMENT OF PATIENTS WITH SUSPECTED BREAST IMPLANT ASSOCIATED ANAPLASTIC LARGE CELL LYMPHOMA

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Introduction: Breast implant associated anaplastic large cell lymphoma (BIA-ALCL) is rare but presents new challenges to surgeons performing aesthetic or reconstructive breast implant surgery. More robust strategies are required for managing patients who present with unilateral changes following breast implant insertion.
Background: Two patients diagnosed with BIA-ALCL were referred for further treatment in Leeds in the last year. Both patients had either a suspicious history or suspicious intra-operative findings on a background of prior cosmetic augmentations. Initial management for both patients was exchange of implants and capsulectomy dispute intra-operative findings of an abnormal capsule. Subsequent pathology confirmed BIA-ALCL and the patients entered clinical follow-up. One patient then developed a new ipsilateral breast mass confirmed as recurrent BIA-ALCL and consequently had explantation, capsulectomies, and wide local excision plus adjuvant treatment.
Discussion: Clinicians must remain vigilant and consider the diagnosis of BIA-ALCL in any patient presenting with new unilateral breast changes. Management of suspicious or confirmed cases should be undertaken with discussion in local breast multidisciplinary meetings. In cases where pre-operative diagnosis is not possible patients should be counselled about the choice of implant and the possibility of not replacing the implants if intra-operative findings are concerning. At the time of surgery a complete capsulectomy should be performed, the suspicious area marked with liga-clips, and the specimen formally oriented for pathological examination.
Conclusion: Management of patients with suspected BIA-ALCL is complex and no intra-operative guidelines exist. We will propose an algorithm to manage these cases based on the principles above.

P041

A PROSPECTIVE COMPARATIVE REVIEW OF MASTECTOMY +/- SENTINEL NODE BIOPSY WITHOUT THE USE OF A DRAIN

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Introduction: The use of drains after breast surgery remains highly variable and surgeon dependent. Proponents claim that drains eliminate dead-space and reduce post-operative interventions. However, it is thought that drain use increases length of stay (LOS), patient pain and anxiety, and costs.
Methods: Patients undergoing mastectomy ± sentinel lymph node biopsy (SLNB) were prospectively collected between April 2016 and August 2017. Data recorded comprised patient demographics, operative details (mastectomy weight, drain use, SLNB), LOS, and post-operative complications (seroma, haematoma, infection). Drain use was determined by individual surgeon preference. Patients undergoing a reconstruction or axillary clearance were excluded.
Results: 134 mastectomies were performed on 123 patients with minimum 1 month follow-up. Though a difference was noted in mastectomy weights between the drain (n=84, mean 816g) and no drain (n=50, mean 496g) group this did not translate to any differences in the complication rates seen in the groups. Additionally, SLNB did not influence complication rates. No increase of interventions was seen for seroma aspiration in the No Drain group. Average LOS for Drain patients was 1.12 days compared with 0.71 for No Drain. Drain cost per patient was £55.32 equating to an overall cost of £4646.88.
Conclusions: This study demonstrates no increased complication when drains were not used and additionally can result in significant cost savings and reduced hospital stay. In an era of stretched resources, and enhanced post-operative recovery, this is a safe approach to take without compromising patient safety.

P042

BREAST SURGERY– IS ROUTINE GROUP & SAVE REQUIRED?

Rajaram Burrah, Wayne Chicken, Saad Abdalla. *Basildon and Thurrock University Hospital, Basildon, United Kingdom*;

Introduction: Most surgical patients, including breast cancer patients, are subjected to a routine 'group and save' (G&S) prior to surgery in most centers. Breast surgery is usually not associated with significant blood loss and therefore blood transfusions are rare post-surgery. We undertook this audit (registered) to ascertain the requirement of routine G&S prior to breast surgery.
Method: Retrospective review of patient records who had surgeries for malignant breast disease from December 2015 to November 2016. Exclusion - surgery for benign disease or combined with another major procedure. Following the initial analysis it was proposed that only the operating surgeon will request the test and that it will not be done routinely by the pre-assessment team. A re-audit was done to close the loop.
Results: 151 cases were eligible for review. 97.35% (147 patients) had G&S, and the post-operative transfusion rate was 1.32% (2 patients). Test cost was £2.20. A significant fall in the testing (97.35% to 37.5%) was seen after the implementation of the changes and there were no post-operative blood transfusions.
Conclusion: This audit showed that routine G&S did not contribute to the patient management, increased cost of treatment, caused patient inconvenience and consumed hospital personal time. The changes we implemented significantly reduced the frequency of this test and we continue to reduce it further as a Quality Improvement project. This audit also stimulated an interest in the surgery department and other units are considering changing their practice based on our results.

P044

COSMETIC MDT DISCUSSION CHANGES MANAGEMENT IN A SIGNIFICANT PROPORTION OF AESTHETIC BREAST CASES

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Introduction: Breast augmentation is the most commonly performed cosmetic operation with breast reduction and mastopexy also increasing. The Keogh Report raised significant concerns about the quality of care for aesthetic patients.
Methods: We established an independent private weekly breast MDT meeting in 2013. In early 2015, we began discussing all cosmetic cases pre-operatively and post-operatively with case notes and 4 view printed photographs. Outcomes were recorded formally and communicated to GPs and MDT participants. Data were collected prospectively.
Results: There have been 245 cosmetic discussions (9 male, 236 female) in the MDT – 121 pre-operative, 39 post-operative histology and 85 post-operative cosmetic. 120/121 (99%) pre-operative cosmetic cases were discussed prior to surgery; 1 patient was not discussed pre-operatively, due to lack of time between the second preoperative consultation and surgery. The majority of cases were deemed reasonable requests for surgery with a suitable technique. 7/121 (6%) patients were declined surgery and 6/121 (5%) deferred after MDT discussion. 11/121 (9%) patients had complex discussions, which altered management. Overall 20% of cases had the management altered by the MDT discussion.
Conclusion: We believe that this is the first cosmetic MDT in the UK with reported data. The discussion led to a change in management for a significant proportion of patients. We recommend at least a fortnight between the final pre-operative consultation and date of surgery to allow review by the MDT. Shared discussions have improved the quality of care for our aesthetic patients. Other centres may wish to implement a similar MDT.

P045
CAN REFLEXOLOGY HELP IN MANAGING PHYSICAL AND PSYCHOLOGICAL SYMPTOMS IN BREAST CANCER PATIENTS?

Ayush Kapila, Pauly Chaplin, Alison Herd, Natalie Knife, Ashraf Patel. *Princess Alexandra Hospital, Harlow, United Kingdom*;

Introduction: Breast cancer treatment and recovery remain physically and psychologically challenging for patients. Reflexology has been studied as a complementary therapy to help relieve patients of the physical and psychological stresses involved with breast cancer treatment and recovery. As a result of recent evidence, our centre started offering reflexology as a complementary treatment from 2010 onwards with good qualitative feedback. With increasing uptake, we studied its effects quantitatively from 2015 till 2016.
Methods: 57 patients completed pre-and post-reflexology intervention 'Measure Yourself Concerns and Wellbeing' (MYCaW) questionnaires. Referral forms were analysed and matched to concerns raised by patients. These 57 patients were subdivided into breast cancer and non-breast cancer (NBC) groups. The concerns raised were subdivided in subcategory groups as per MYCaW guidelines and analysed for improvements in each domain.
Results: Of the 57 patients referred, 35 (61.4%) were breast cancer patients and 22 (38.6%) were non-breast cancer patients. 39% were referred by their breast care nurse and 30% referred by their consultant. Of those referred, 32% were referred for a reason matching their concern on the MYCaW form. In breast cancer patients, there was a 52% improvement in patients' concerns, and in non-breast cancer patients, a 43% improvement in patients' concerns were noted. Overall, the symptoms improved by 47% ($p<0.0001$).
Conclusions: Our findings show that reflexology has significantly improved patient reported outcomes using the MYCaW scale. These findings are encouraging and reflect that increased attention to strategies focusing on improving psychological wellbeing can help patients in managing their symptoms.

P046
ESTABLISHING BREAST TRIPLE ASSESSMENT IN BLANTYRE, MALAWI: THE FIRST YEAR'S EXPERIENCE

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Introduction: Malawi is one of Africa's poorest countries with a population of 19 million and limited healthcare resources. Non-communicable diseases including cancer are increasing. Globocan estimates 762 new cases of breast cancer in Malawi annually. Most of these do not reach specialist care.
In February 2017 one breast surgeon and the single oncologist at Queen Elizabeth Central Hospital (QECH) in Blantyre established a specialist breast assessment clinic. It is based as closely as resources allow to ABS guidelines.
Methods: Patients are initially triaged in a pre-existing breast clinic and those needing triple assessment attend the new one-stop service two days later. A standard breast pro forma is completed, and after clinical review, ultrasound (mammography is unavailable), and where required biopsy, are performed. Biopsies are reported by one pathologist who provides all histology and cytology services to the hospital. A database has been created to collate patient data, track progress and facilitate audit.
Results: In 2017, 154 patients were assessed, of whom 48 had confirmed breast cancer. Their median age was 50, range 23-73. Of 42 primary cancers diagnosed, 10 were stage I/II, 32 stage III/IV. Median time from initial symptom to presentation was 93 days.
Conclusions: A triple assessment breast clinic has been successfully established in QECH, offering prompt diagnosis and treatment. This service is being extended to the central hospitals of the other two regions of Malawi. Cancers are predominantly late stage, underlining the importance of raising community and clinician awareness and coherent service development.

P047
VALIDATION OF A NEW METHOD OF MEASURING BREAST VOLUME USING DIGITAL MAMMOGRAPHY

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Introduction: Tumour to breast volume excision ratio is important in achieving optimal cosmetic outcomes. Currently breast volume estimation is a tedious calculation. Breast Centre North West developed a novel Digital Breast Volume Estimation method (DBVE) using digital mapping of breast area from two dimensional mammography combined with breast compression thickness. This study assessed if DBVE using conventional digital mammography could correctly determine breast volume.
Methods: All consecutive patients undergoing mastectomy, between October 2014 and August 2017, were prospectively analysed in an ethically approved study. Pre-operative breast volume (cm^3) was calculated using DBVE from craniocaudal (CC) and mediolateral oblique (MLO) mammographic views then compared with real mastectomy weight (g) measured using breast operative specimens. Mastectomy weight was converted to a volume ($1g = 1cm^3$). Correlation was measured using Bland-Altman analysis and Pearson's correlation coefficient.
Results: 60 patients, age 57 ±15 (29-89) were studied with bilateral mastectomy in 4 (64 specimens).

Table 1
Breast volume calculations from mastectomy weights and DBVE:

Method	Mean±sd	Range
Mastectomy weight (g)	723.7±460.3	100–2526
DBVE CC view (cm^3)	731.3±439.9	119–2455
DBVE MLO view (cm^3)	928.9±570.0	188–3432

In CC view Bland-Altman analysis identified excellent correlation with a mean difference of $8cm^3$ and a positive correlation of $r=0.95$; MLO view showed a mean difference of 205 cm^3 despite an $r= 0.93$, $n=64$, $p=\leq 0.001$.
Conclusion: DBVE method accurately predicted mastectomy volume using CC view. This new simple volumetric measurement could be used by clinicians to aid clinical decision making in breast cancer surgery.

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P048

IMMEDIATE RECONSTRUCTION TRENDS POST MASTECTOMY FOR BREAST CANCER IN SCOTLAND

E Jennifer Campbell [1], Bernard Robertson [1], Matthew Armstrong [2], Andrew Malyon [1]. [1]*Glasgow Royal Infirmary, Glasgow, United Kingdom*; [2]*NHS National Services, Scotland, United Kingdom*;

Introduction: Following the publication by Mennie et al (EJSO 2016) of trends in immediate breast reconstruction (IBR) in England & Wales, we set out to examine the trends in Scotland over a similar time in order to establish whether similar patterns existed or not.
Methods: Scottish Morbidity Record 01 data were collected from ISD Scotland looking for all mastectomies performed over the period 2011 - 2016 with a primary diagnosis of breast cancer (ICD10 codes C50 and D05) with or without a reconstruction code at this event. These were then further broken down by procedure codes to gain an insight into the types of IBR chosen.
Results: 7358 episodes recording mastectomy were identified, of which 1844 were also coded with a reconstructive procedure giving an IBR rate of 25%. There was a general upward trend in the rate of IBR from 21% to 26% over the study period. Overall 55.6% patients underwent IBR using autologous techniques. Implant based techniques were often associated with an 'other' coding, which may reflect the use of acellular dermal matrices. Numbers of implant only and implant + 'other' were similar at around 20%. Within Scotland variation was noted between the three cancer networks, with autologous procedures preferred in the West & North Cancer networks, but a preponderance of implant + 'other' preferred in the South network.
Conclusion: Autologous IBR is the constant preferred technique post mastectomy in Scotland. The proportional trends of IBR techniques are quite different to England. Variation in IBR techniques exists between Scottish cancer networks.

P049

PASSION. WHAT ARE THE REASONS HEALTHCARE PROFESSIONALS LOSE IT AND SOLUTIONS TO FIND IT!

Jane Wigg. *Lymphoedema Training Academy, Stafford, United Kingdom*;

Aims: More nurses are leaving their chosen career than being recruited. This gives a deficit of nurses in the UK. We are struggling to recruit and keep our nursing workforce. The RCN sites several reasons for this. Working within a training environment allows for this to be seen easily when delegates attending courses are generally above 40 years of age. Many healthcare professionals burn out or lose their passion for their career. A survey was carried out of 130 Lymphoedema therapists working within lymphoedema at differing levels to ascertain the reasons and any common ground for losing one's passion.
Description: 130 therapists were asked 2 simple work-related questions as to 'what they understood by passion' and 'why do you lose it'. The surveys were completed and analysed using content analysis.
Evaluation: Following the analysis of 130 surveys, five themes were identified as the 'what is passion' and nine reasons of 'why you lose it'. Themes about being overworked and undervalued by managers and colleagues with 10% being bullied. Reasons also cited as finance and resources. The theme of passion was described as helping people, achieving goals, caring and feeling successful. This presentation will outline the demotivators and introduce the solutions to help you identify how the 'negative voice in your head' is choosing for feelings and how you can choose to stay passionate about any aspect of your life.

P050

CAN INTRAOPERATIVE FROZEN SECTION OF SENTINEL LYMPH NODES IN EARLY BREAST CANCER REDUCE THE NEED FOR DELAYED AXILLARY LYMPH NODE DISSECTION? AN INDIAN EXPERIENCE

Shaziya Hassan Ali, S.P. Somashekhar, Shabber S. Zaveri. *Manipal Comprehensive Cancer Centre, Bangalore, India*;

Introduction: Intraoperative frozen section of sentinel lymph nodes in early breast cancer has the potential to reduce the need for delayed axillary lymph node dissection (ALND), significantly reducing patient morbidity, expediting adjuvant therapy, reducing length of hospital stay and cost of hospitalisation. This study aims to evaluate the accuracy of intraoperative frozen section in identifying metastasis in sentinel lymph nodes in early breast cancer.
Methods: The frozen section and final histopathology reports of 164 consecutive patients under-going surgery for early breast cancer with sentinel lymph node biopsy between January 2015 and August 2017 were assessed.
Results: Out of the 164 cases, metastases were detected in sentinel lymph node by frozen section in 38 cases. There were three false-negative cases (all showing micrometastasis on final histopathology). Intraoperative frozen section had sensitivity of 92.6%, specificity of 100%, and overall accuracy of 98.1%. The positive predictive value was 100%, and the negative predictive value was 97.6%. The sensitivity of frozen section is lowered by its inability to accurately pick up micrometastasis. However, frozen section is highly accurate in picking up macrometastasis with a sensitivity of 100%.
Conclusion: Intraoperative frozen section can identify macrometastasis to sentinel lymph nodes with a very high sensitivity. Its routine use in early breast cancer can reduce the need for second procedure, in the form of delayed ALND. However, frozen section may fail to detect micrometastasis, although as yet, this is not a reliable indication for ALND.

P051

REDEFINING HEALTH CARE: ADDRESSING QUALITY OF LIFE BETWEEN BREAST CONSERVING SURGERY VS TOTAL MASTECTOMY AMONG BREAST CANCER SURVIVORS IN INDIA

Shaziya Hassan Ali, S.P. Somashekhar, Shabber S. Zaveri. *Manipal Comprehensive Cancer Centre, Bangalore, India*;

Introduction: A comprehensive health care is defined by its holistic approach. The decision of breast conservation v/s mastectomy is very crucial not only for the women with breast cancer, but also the surgeons, as it challenges the self-esteem of women, having a great psychosocial impact. The aim of this study was to investigate the differences in quality of life in patients who received breast conserving surgery (BCS) or total mastectomy (TM) for breast cancer.
Methods: A total of 100 women with breast cancer who underwent either BCS or TM between August 2016 and April 2017 were interviewed after completion of their chemotherapy and radiotherapy cycles. The quality of life was assessed by the EORTC-QLQ-C30 and EORTC-QLQ-BR23 questionnaire.
Results: Using QLQ-C30, patients who underwent BCS had better functional status and fewer symptoms than patients who underwent TM. In QLQ-BR23, independent factors improving the functional scales were BCS, higher level of education and marital status (married); independent factors improving symptoms were BCS, higher level of education, younger age and low and normal body mass index (BMI). In QLQ-C30, independent factors affecting the functional and symptom scales were only BCS and higher level of education.
Conclusion: BCS had better functional status and less frequent symptoms than patients who underwent TM. Thus the type of surgery patient receives has a significant impact on the quality of life among breast cancer survivors and the need for quality of life to be included in the treatment discussions with the patient by the treating surgeon cannot be stressed enough.

P052

DOES MY FIBROADENOMA NEED SURGICAL EXCISION? IF YES, ON WHAT BASIS?

Tajudeen Wahab, Hanna Uwakwe, Humayun Khan, Rilwan Aransi. *King George Hospital, Ilford, Essex, United Kingdom*;

Introduction: Fibroadenoma (FA) is a common tumour whose diagnosis is confirmed through a Triple Assessment. Exception are patients <25yr when biopsy may be omitted if imaging is benign. FA with increased stroma cellularity needs to be distinguished from benign phyllodes tumour (PT). Even though rare, there are reports of foci of breast cancer in some excised FA. Indications for excision include size >30mm, growing FA,

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patient's request. Some patients however questions the need for excision if core biopsy had confirmed FA and others, the wisdom for not excising.
This study aimed to find what proportion of FA excised after triple assessment and according to guideline return pathology other than FA post-excision.
Methods: Retrospective analysis of all FAs excised over 3 year period. Data from PACs, MDT outcome and patients' electronic records. Collected were age, FA ultrasound size at diagnosis and any interval change, indication for excision, pathology pre and post excision.
Results: 276 FA excised in 258 patients (Av. 92FA/yr). 251 had preoperative histology confirmation, 25 FA excised based on clinical and USS finding (mostly patients 25yrs).

Table 1
The post excision pathology.

Pathology	No	%
FA	264	95.7
FA + DCIS	1	0.3
PT	8	3
PASH	1	0.3
Fibrocystic changes	1	0.3
Hamartoma	1	0.3

Conclusions: 3% of FAD excised turns out to be PT despite pre-operative biopsy while only 0.3% is cancer related. This statistic is important for patients that are discharged from one-stop clinic without offering excision to know and useful to persuade patients that question the need for excision.

P053
OPTIMAL MANAGEMENT OF THE AXILLA FOLLOWING NEO-ADJUVANT CHEMOTHERAPY

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Introduction: Sentinel lymph node biopsy (SLNB) has been accepted as a gold standard for staging of invasive breast cancer but currently there are no national or international guidelines regarding SLNB following neo-adjuvant chemotherapy (NACT). We noticed a considerable number of patients who had complete pathological response (pCR) in the breast also showed pCR in the axilla.
Aims of this study were to critically assess axillary management following NACT at our hospital and to review our current practice against the published data. To check feasibility of SLNB following NACT.
Methods: Retrospective data collection from January 2015 to December 2016.
Results: Of 466 breast cancers diagnosed during these 24 months, 82 patients received NACT 57 node positive.
Median age 54 (range 24-54). Fourteen grade 3 histology, 7 triple negatives and 15 HER2 positives. Most common histological subtype was IDC/NST- 69, eight were invasive lobular cancer. Fifty seven out of 82 were lymph node positive before NACT. Overall 26% had pCR and 72% had partial response. Two had disease progression. Forty three percent of triple negatives and 47% of HER2 positives had pCR. All (100%) HER2 positives and ER neg patients had pCR. Average number of axillary node removed in SLNB was 3.
Conclusions: Our audit demonstrated that pCR in the breast is associated with pCR in axillary nodes so ANC may be overtreatment in this patient group. Recommendation of audit was to select post NACT patients for SLNB according to clinical and radiological response and to re-audit after 1 year.

P054
PREPECTORAL BREAST RECONSTRUCTION (PPBR) WITH BRAXON– A NATIONAL AUDIT IN THE UNITED KINGDOM

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Introduction: Prepectoral Breast Reconstruction (PPBR) is becoming increasingly popular as the reconstructive option for immediate reconstruction following a mastectomy. Braxon is an Acellular Dermal Matrix (ADM) that allows patients to have a PPBR with many advantages to the patient over a subpectoral reconstruction.
Methods: A national audit was carried out involving 19 breast units in the UK that have used Braxon PPBR in patients suitable for this reconstructive procedure from January 2014 to December 2017. All data was collected prospectively and entered into a database. Patient demographics, operative details and early complications were analysed. Complications were graded as major or minor based on the Clavien-Dindo grading system.
Results: A total of 599 implant-based PPBR were performed in 19 breast units across the United Kingdom. 373 patients had unilateral procedures while 113 were bilateral. The mean age was 49 years (range 20-82) and the average BMI was 25.5 (18-43). Minor complications included seroma, redness and breast pain and major complications included infection needing intravenous antibiotics, haematoma, wound dehiscence, skin necrosis and implant loss. Minor complications were reported in 99 (16.5%) patients. Major complications resulting in a loss of the implant were seen in 41 (6.8%) in our series. PPBR has a reduced inpatient hospital stay with less post-operative pain. The cosmetic outcomes have been excellent, with high patient satisfaction.
Conclusions: This national audit of PPBR using Braxon, demonstrates results comparable if not better than the results reported in the National Mastectomy and Reconstruction Audit (NMBRA) in 2011.

P055
RADIATION INDUCED ANGIOSARCOMA OF THE BREAST – A GROWING CHALLENGE IN THE ERA OF BREAST CONSERVING SURGERY

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Introduction: Radiation-induced angiosarcoma (RIA) of the breast is rare. However, as breast conservation surgery (BCS) rates increase, growing numbers of women receive breast radiotherapy.
Methods: Patients diagnosed with RIA from 2005 to 2017 were identified through sarcoma and pathology databases. Basic patient demographics, details of the primary breast cancer and treatment, and diagnosis and management of RIA were recorded. Patients with non-RIA were excluded.
Results: Thirty-one patients with RIA were identified. Mean age at diagnosis was 65 years, with a median latency between radiotherapy and developing RIA of 87 months. Treatment of the primary breast cancer was wide local excision (WLE) (n=30), or mastectomy (n=1), and radiotherapy (40 Grays in 15 fractions, 9 patients received a boost). Twenty-nine patients underwent surgical excision of RIA with incomplete excision rate 30% (margins <2mm, n=8). Five had further excision with complete clearance in 4. RIA recurred in 54% patients at a median 17 months. 62.5% of patients with incomplete primary excision, and 60% of recurrent RIA have died of RIA.

Table 1

Disease specific survival		
1 year survival	24/29	83%
2 year survival	21/29	72%
3 year survival	17/29	59%
5 year survival	16/29	55%
Overall survival		50%

Conclusions: With the recent trend towards BCS the incidence of RIA is likely to steadily increase in the future although it remains a rare phenomenon. This single-centre review indicates that recurrence and incomplete margins are associated with increased mortality. The possibility of RIA should be routinely discussed with patients considering breast conserving surgery and information on early detection given.

P056
ASSESSMENT OF PATIENT CONCERNS AND MANAGEMENT BY SPECIALIST BREAST CARE NURSES DURING THE IMPLEMENTATION OF A PATIENT CENTRED SURVIVORSHIP PROGRAMME

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Kimberley Edwards, Natalie Roberts, Teresa Jemison, Philippa Robinson, Pam Hoyles, Penelope McManus. *Hull and East Yorkshire Hospitals NHS Trust Breast Care Unit, Hull, United Kingdom*;

Introduction: The National Cancer Survivorship Initiative has identified the need for breast cancer follow-up to move towards self-care, with improved patient education and support. In response, Hull and East Yorkshire Hospitals NHS Trust developed a survivorship programme, combining mammographic surveillance with holistic needs assessment (HNA). This study examines patient concerns and outcomes following HNAs.
Methods: A 92 consecutive patient sample underwent HNA between January and March 2017 after first annual mammogram and clinical review, following curative treatment for a first primary breast cancer. A 20 minute consultation with a breast care nurse (BCN) collected data regarding concerns and actions taken by the assessor using an assessment pro forma.
Results: Patient age ranged from 45-90. Surgery performed included: wide local excision/ therapeutic mammoplasty (n=70), mastectomy (n=11) or mastectomy plus reconstruction (n=11). 26% (n=24) received chemotherapy. The commonest concerns were lethargy (27%; n=25), menopausal symptoms (21%) and weight change (15%). No patients required referral to a consultant breast clinic; 1 required oncology referral and 5 needed GP input. 3 patients received BCN follow-up and 3 were referred to nurse-led clinics (lymphoedema/fatigue/prosthetic). 8 patients were encouraged to self-refer to local support services. The remainder (n=72) could be managed with BCN advice or reassurance.
Conclusion: Results of our 5 year experience examining the detection of breast cancer recurrence are awaited. 12 months post-treatment, 53% (n=49) of patients experienced concerns. 22% (n=20) required referral to other services; only 1 required secondary care consultant review. This demonstrates that HNA is an appropriate re-distribution of breast cancer patient support services.

P057
NATIONAL UPTAKE OF ADJUVANT RADIOTHERAPY FOR INVASIVE BREAST CANCER, BY AGE: DATA FROM A POPULATION-BASED COHORT

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Introduction: Older patients with breast cancer (BC) are more likely to receive non-standardised treatments, including adjuvant therapies. This study examined the uptake and delivery of adjuvant radiotherapy for invasive BC in women aged >=70yrs, compared to those aged 50 – 69yrs, as part of the National Audit of Breast Cancer in Older Patients (NABCOP).
Methods: Women aged >=50yrs, diagnosed with invasive BC in England between 01/01/2014 and 30/06/2015 were identified from a linked dataset of BC patients from the national cancer registry, Hospital Episode Statistics (HES) and national radiotherapy dataset (RTDS). Patients who had radiotherapy reported with palliative intent were excluded. Multilevel models were used to account for clustering in the data.
Results: Among 50,366 women diagnosed with invasive BC (29,175 aged 50 - 69yrs; 21,191 aged >=70yrs), mastectomy or breast conserving surgery (BCS) was reported for 26,769 (92%) women aged 50 - 69yrs and 13,508 (64%) women aged >=70yrs. Among those younger and older women receiving surgery, 79% and 63%, respectively, had subsequent (non-palliative) radiotherapy. The majority of patients in both age cohorts had whole breast irradiation (40Gy/15F over 3 weeks).
The likelihood of receiving radiotherapy following surgery remained strongly associated with age even after adjustment for Charlson Comorbidity Index, grade, tumour stage, oestrogen receptor (ER) status, deprivation and clustering within geographical region. There was further regional variation in uptake of radiotherapy. Details on dosing and regional differences will be presented.
Conclusion: Older women diagnosed with invasive BC are less likely to have radiotherapy following surgery, with regional variation in uptake and delivery.

P058
A STUDY LOOKING AT THE EFFECT OF PEC/ SERRATUS NERVE BLOCKS ON THE INCIDENCE OF PERSISTENT POST-OPERATIVE PAIN AFTER BREAST CANCER SURGERY

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Introduction: 30-50% of mastectomy patients report chronic pain and 14% of these describe it as moderate to severe. To our knowledge, there have been no published studies regarding the use of pectoral nerve blocks to prevent long term pain and minimal studies using serratus nerve blocks.
Methods: We carried out a prospective cohort study on all mastectomy patients who had a pectoral and/or serratus nerve block prior to skin incision between April 2015 and January 2017. Pain severity scores were recorded for each patient during their inpatient stay and then at six months with a telephone call. The universal pain assessment tool was used to grade severity (0-10).
Results: There were 18 patients; average age was 66 (32-89) years. 78% *(n=14)* had axillary procedures as well as a mastectomy, 22% *(n=4)* just had a simple mastectomy. 2 patients had immediate implant reconstructions. The median pain score in recovery was 2, at day one post op it was 2 and at six months post op it was 1. None of the patients at six months reported severe pain and 88% did not require any regular analgesia.
Conclusions: The results of this study suggest that pectoral and serratus nerve blocks, used prior to skin incision, can reduce the incidence of significant chronic pain after mastectomy and minimise the negative impact on quality of life. The promising results of this pilot study would support a larger, better quality study being carried out prior to a recommended universal change in practice.

P059
MENTAL, SOCIAL AND FINANCIAL STRESS DURING TREATMENT OF BREAST CANCER: AN OBJECTIVE VALIDATION STUDY IN INDIAN PATIENTS

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Introduction: Treatment of breast cancer leads to mental, social and financial stress.
Aims: This study aims to assess stress levels during and after treatment in Indian patients.
Methodology: 100 patients referred to Disha (survivor lead advocacy group) between 6 and 60 months of treatment were studied (double-blind) .Each patient was given a questionnaire (developed by psychologist) comprising of 6 facets of treatment viz stress at diagnosis, surgery, chemotherapy and radiation (mental stress scores 1-5 in increasing order) financial and social-family support base (stress scores 1-4 in increasing order). The results analysed SPSS-software.
Results: Diagnosis and surgery were associated with statistically insignificant stress between minor and major parameters (P=0.39 vs 0.77). Chemotherapy was associated with highest major stress (p<0.0001). Radiation had significant minor stress (p<0.0001). 83% patients had only minor social and financial stress (p<0.0001).
Discussion: Chemotherapy was associated with highest stress levels. At financial level, all the patients in the study group completed treatment using various resources. Though there does not exist any structured social support system, characteristically the family support system was found to be very strong. However, most believed that the disease continues to remain a social stigma and the input from the non-family members was poor to negative both in the social and job atmosphere.
Conclusion: Resources should be maximally directed at reducing the mental stress level during chemotherapy. Based on this study, this group plans to formulate a survivor-led focused support strategy during chemotherapy so as to reduce the stress during treatment.

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P060

RATES OF LYMPHOEDEMA FOR PATIENTS UNDERGOING AXILLARY SURGERY AT A SINGLE CENTRE.

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Introduction: Breast cancer related lymphoedema (BCRL) can result in significant physical and psychological morbidity. The aims of the study were to identify the lymphoedema rate in our unit and to quantifying lymphoedema by the % difference in limb volumes, measuring the change in volumes and assessing the effect of the type of axillary surgery on BCRL.
Methods: OPCS-4 codes identified all patients who underwent axillary surgery between 2011 and 2014. Patients who developed lymphoedema were captured from the prospectively maintained lymphoedema clinic notes. Data collected included: Age at diagnosis, type of axillary surgery (axillary node clearance (ANC), sentinel node biopsy (SNB)) and limb volume measurements.
Results: 2074 patients (median age 62) underwent axillary surgery between 2011 and 2014. Of these, 122 were seen in the lymphoedema clinic (median age 57) giving a BCRL rate of 0.6% at 3 - 6 years post index operation. The overall median volume difference at first clinic was 6.8% (IQR 3.5-16.2) this decreased to 5.7% ((IQR 2.25-11) p=0.15854) with a median follow-up of 25 months (IQR 16-33).
SNB only was associated with a significantly lower limb volume discrepancy, at first clinic attendance (2.7%, IQR 1.55-5.2), when compared to those undergoing ANC at index procedure (9.3%, IQR 4.4-16.7, p=0.0048) or subsequent ANC (6.2%, IQR 3.375-16.775, p=0.0164).
Conclusion: This observational retrospective study has captured a lymphoedema rate of 0.6%. SNB only results in significantly lower limb volume discrepancy than undergoing ANC either at the index procedure or subsequently, although the significance of this is diminished at last follow-up.

P061

THE IMPACT OF NEOADJUVANT CHEMOTHERAPY ON RE-EXCISION RATES AFTER BREAST-CONSERVING SURGERY

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Introduction: Neoadjuvant chemotherapy (NACT) is increasingly used in early operable breast cancer if the tumour phenotype is appropriate. There is conflicting evidence that NACT may reduce margin re-excision rates (RER) after breast-conserving surgery (BCS). The objective of this study was to test this hypothesis and explore the impact of NACT on RER in the setting of a tertiary cancer hospital.
Methods: Retrospective cohort study to include all women who had BCS with or without NACT between 01/2010-12/2012. Statistical analysis with chi-square and logistic regression was performed as appropriate.
Results: Over the study period 1398 women underwent BCS of whom 147 also received NACT. Those receiving NACT showed significantly lower RER compared to those treated with BCS and no NACT (12.24% vs 19.1%, p=0.042). The tumour phenotype-specific RER in the NACT subcohort was: 20% for Luminal A, 9.1% for Luminal B, 6.7% for Human Epidermal Growth Factor Receptor (HER)-2 enriched and 8.2% for triple negative (TN) breast cancer. Progesterone receptor (PR) status (p=0.013) and Luminal A subtype (p=0.039) were significantly associated with RER but none of these retained statistical significance in the regression model.
Conclusions: Patients treated with BCS after NACT required significantly fewer re-operations to achieve clear margins. The lower RER within the NACT subcohort in patients with TN and HER2 positive breast cancer may reflect a differential tumour phenotype response to NACT. This reduction in RER may further support risk-adapted BCS after NACT. However, the long-term safety of such approach is yet to be established.

P062

AXILLARY CLEARANCE FOLLOWING POSITIVE SENTINEL LYMPH NODE BIOPSY IN SYMPTOMATIC BREAST CANCERS: TIME FOR A MORE SELECTIVE APPROACH?

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Introduction: ANC is associated with significant morbidity. Performing ANCs in all patients with node-positive SNBs may lead to overtreatment and unnecessary morbidity. Insufficient data exists on management of positive SNBs in symptomatic cancers. We sought to assess our practice of ANCs following SNBs in symptomatic patients.
Methods: A retrospective case-note review was performed on 83 symptomatic breast cancer patients who underwent ANC following positive SNB between 2008 and 2017. Clinicopathological data was collected on cancers, axillary nodal pathology, recurrence and survival.
Results: Median age was 50 years (range 32-78). Mean tumour size was 23.8 mm (range 2mm- 70mm). Thirteen cancers (15.7%) were ER negative, 16 (19.3%) HER2 positive and 31 (37.3%) grade 3. Thirty (36.1%) patients were treated with mastectomy and 53 (63.9%) with breast-conserving surgery.
Twenty-two (26.5%) ANCs showed evidence of further lymph node metastases. Of these, 68% (15/22 ANCs) had two or fewer macrometastases.
The presence of metastases at ANC (versus negative ANC) correlated with tumour size (p=0.02) but not with grade, Ki67, ER or HER2 status. The presence of more than 2 macrometastases at SNB was significantly associated with further metastases at ANC (p<0.001).
Eleven (13.4%) patients developed local or distant recurrence and 11 (13.4%) died. The presence of further metastases at ANC was not associated with reduced OS or DFS.
Conclusions: Using current guidelines, a considerable number of symptomatic breast cancer patients with positive SNBs may be overtreated. This data calls into question performing unselected ANCs on all positive SNBs, particularly with low-risk tumours.

P063

INVASIVE BREAST CANCER IN WOMEN UNDER 30: A 10 YEAR EXPERIENCE

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Introduction: Breast cancer in younger women is relatively rare, tends to be more aggressive and is associated with unique challenges. We sought to examine our practice in managing cancer in patients under 30.
Methods: A retrospective case-note review was performed on patients under 30 years of age diagnosed with invasive breast cancer through our pathology database since 2007. Clinical and pathological data was collected on patients' cancers, management and follow up as well as family history, genetic testing and fertility management.
Results: Twenty-seven patients were identified. Median age was 28 years (range 23 to 30). Mean tumour size was 30mm (range 4 -65mm). Eight (30%) cancers were ER negative, 10 (37%) were HER2 positive and 3 (11%) were triple negative. Fifteen patients (56%) had positive lymph node metastases. Four patients (15%) had a strong family history and 3 (11%) were BRCA 1 or 2 gene positive. Four patients (15%) underwent risk-reducing mastectomy. Sixteen patients (59%) had no children at diagnosis. Fertility management was discussed with 25 (93%) patients and 10 patients (37%) underwent ovum or embryo preservation. Over a median follow up of 40.5 months (range 4.5 to 128 months), 5 patients (19%) developed local or distant recurrence and four patients (15%) died.
Conclusion: In our experience, breast cancer patients under 30 had more aggressive cancers with a relatively high rate of axillary metastases at presentation. Young patients with breast cancer face unique management challenges such as fertility, genetic testing and survivorship issues that are best addressed in a multidisciplinary setting.

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P064
REGIONAL AUDIT: ONCOTYPE DX TESTING IN INTERMEDIATE RECURRENCE RISK, EARLY BREAST CANCER PATIENTS

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Introduction: This audit is a cross site study across three hospitals in Dorset, looking at clinical practice involving Oncotype DX testing and whether it adheres to the NICE guidelines published in 2013.
Methods:

- Retrospective data collection using electronic and histopathology records.
- Identification of all eligible Oncotype DX patients between 05/2015 and 12/2016 for Poole; 06/2015 and 12/2016 for Bournemouth (RBCH) and 09/2015 to 05/2017 for Dorset County Hospital (DCH).

Results: Table 1

Table 1

	Poole	RBCH	DCH
Number of eligible patients	123	71	27
Number offered Oncotype DX testing	26 (22%)	29 (41%)	30 (111%) (3 patients LN positive)
Total number tested	16 (62%)	27 (93%)	30 (100%)
Number of patients offered Oncotype DX testing AND had a patient decision recorded regarding chemotherapy, should they receive an intermediate score	8/26 (31%)	5/27 (18%)	?
	Oncotype DX Score		
	Low Risk	**Intermediate risk**	**High Risk**
Number of patients (across Dorset)	35	26	13
Received chemotherapy	4 (11%)	12 (46%)	12 (92%) One patient declined chemotherapy after result

Conclusion: Transparent and accountable communication must be used at all stages of the decision making process by MDT teams to prevent future patients being given inappropriate chemotherapy, as was the case for four patients in this study. There is also a danger that inappropriate use of this test will lead to a waste of NHS resources (each Oncotype DX test = £2500). Other NHS trusts are encouraged to audit their own clinical practice to identify potentially similar undetected problems which could lead to patient harm.

P065
NEOADJUVANT ENDOCRINE THERAPY FOR ER+ DCIS REDUCES THE SIZE OF DISEASE AND ALLOWS BCS WITH A LOW RE-EXCISION RATE

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Introduction: The role of neoadjuvant endocrine therapy for ER+DCIS is not yet characterised.
Methods: Data was collected from patients diagnosed with ER+DCIS at a single unit (2009-15) given neoadjuvant endocrine therapy due to co-morbidity or delay awaiting 1-stage reconstruction. The imaged tumour size was compared to final pathology using RECIST criteria.
Results: 42 patients diagnosed with ER+ DCIS received primary endocrine therapy, median age at diagnosis 63y (range 37-94y). 7/42 patients were premenopausal treated with tamoxifen, 35/42 were postmenopausal treated with letrozole. 36/42 patients underwent surgery, 18/36 mastectomy, 18/36 BCS, median time to operation 72d (range 15-308d). 12/42 (28.6%) had invasive disease on final pathology. 2/36 (5.6%) patients had a pathCR, 14/36 (38.9%) PR, 17/36 (47.2%) had stable disease and 3/36 (8.3%) had larger disease on pathology than imaging (may reflect calcification disappearance). 26/42 (61.9%) patients initially had DCIS >40mm (largest 240mm) and 9/26 (34.6%) of these patients underwent successful BCS. Overall, 3/18 (16.7%) BCS patients required re-excision for positive margins. There was a correlation between increasing length of endocrine therapy and reduction in size of disease.
Conclusions: This is the first UK single-institution series of its type. The re-excision rate after BCS was 16.7%, compared to 30% UK-wide for DCIS. There is a 5.6% path CR rate, a 38.9% PR rate and most of the rest had stable disease. This series shows the huge potential of neoadjuvant endocrine therapy in DCIS, mandating a UK-wide study to understand its role in ER+ DCIS.

P066
ANALYSIS OF BASELINE AND ONE YEAR BODY COMPOSITION DATA FROM THE 'INVESTIGATING OUTCOMES FROM BREAST CANCER (BEGIN)' STUDY

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Introduction: Patients often gain weight during breast cancer treatment and those who are overweight or obese tend to experience poorer short and long-term outcomes. BMI is weight standardised for height (kg/m^2); therefore understanding the composition of weight in terms of fat mass index (FMI: kg fat mass/m^2) and fat free mass index for lean (muscle; FFMI) may provide additional prognostic information to BMI alone.
Methods: Data was collated for the first 120 patients recruited into the BeGIN study (REC 10/H0308/48). Body composition measurements, including BMI, FMI and FFMI were obtained using a SECA mBCA515 bioelectrical impendence spectroscopy analyser.
Results: Whilst there was good correlation between BMI and FMI for any BMI there was a range in FMI. Patients >50y were more likely to have a greater BMI and FMI than those ≤50y. FMI and BMI increased at one year compared to baseline, however, differences for BMI were not statistically-significant (BMI:27.6 v 27.9 p=0.07 and FMI:11.6 v 12.0 p=0.01 respectively). As FMI tertiles increased, a lower proportion of patients received standard anthracycline-taxane sequential chemotherapy but a greater proportion experienced grade 3 chemo-toxicity.
Conclusions: Body composition changes between baseline and one year were more evident for FMI than BMI. Patients in the highest FMI tertiles appeared less likely to receive standard anthracycline-taxane sequential chemotherapy but appeared more likely to experience chemo-toxicity. Body composition may provide additional prognostic information to BMI for predicting short term outcomes such as chemotherapy toxicity.

P067
WIRE GUIDED IMPALPABLE BREAST LESION LOCALISATION: OLD IS GOLD?

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Introduction: Impalpable breast lesions are on the rise due to extension of the screening programme as well as increased use of new imaging modalities. Over the last decade new techniques of localisation have emerged which may replace the gold standard technique of wire localisation. The

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aim of the study was to determine the use of wire guided occult lesion localisation in our unit and to assess its efficacy.
Method: A total of 117 patients were included in the study. Ariadne's Thread® was used in our practice and placed under local anaesthesia using stereo or ultrasound guidance and position checked using mammography.
Results: Altogether 117 procedures were performed of which 89 were invasive malignancy, 14 were DCIS and 14 were benign disease. The age ranged between 36 and 89 years (mean 57.8 years). Complete excision was achieved in 106 patients, with 11 (9%) patients requiring further surgery due to insufficient or involved margins. Adverse effects such as wire displacement, cutting of the wire or slippage of the wire was not experienced. However theatre lists had to be coordinated with the radiology team and only a maximum of three cases of localisation could be done per list due to availability of radiology and time limitation.
Conclusion: Wire guided impalpable breast lesion localisation was safe, simple and remained the gold standard in our practice. Whilst promising new techniques are emerging they are still in their infancy and long term data are needed. It appears that wire localisation still plays a significant role.

P068
INITIAL EXPERIENCE OF CLIPPING THE INVOLVED AXILLARY LYMPH NODE PRIOR TO NEOADJUVANT CHEMOTHERAPY (NACT)

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Introduction: To reduce the high (>10%) false negative rate (FNR) of sentinel lymph node biopsy (SLNB) after NACT in patients with node positive breast cancer clips have been placed in involved nodes prior to NACT. Z1071 study showed that where the clipped node was in the SLNB specimen the FNR was 6.8%.
Methods: 21 patients with biopsy proven nodal disease underwent axillary marker clip insertion prior to commencing NACT. If post NACT imaging showed normal nodes patients underwent a SLNB with additional nodes sampled to make the total four. Sampled nodes were x rayed to identify the marker clip.
Results: There were no procedure related complications. 20/21 patients underwent surgery. (1 axillary clearance and nineteen 4 node SLNB). Median number of nodes identified on histology was 5 (1-8). Median number of sentinel nodes was 2 (1-4). A sentinel node could not be visualised in 3 cases (15%). In all 3 the marker clip was seen on x-ray of the axillary sample.
Marker identification rate was 79% (15/19). Axillary pathological cure rate (pCR) after NAC was 42% (8/19). It was 100% (5/5) in HER2+ve, 50% (3/6) in triple negative and 0% (0/7) in ER/PR +ve, HER2 −ve patients
Conclusion: Axillary marker clips can be deployed safely without increased morbidity. Our clip identification rate (79%) co relates well with published series (Caudle et al 80%, Z1071-76%) and indirectly validates the quality of our 4 node SLNB approach. Selective surgical localisation of axillary lymph node may increase the clip identification rate.

P069
PATIENT SATISFACTION AND COMPLICATION RATES WITH DAY CASE VERSUS INPATIENT MASTECTOMY USING A VALIDATED QUESTIONNAIRE

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Introduction: There is reluctance amongst clinicians to undertake mastectomies as day case procedures, despite guidance from NHS Improvement that this could, safely, reduce inpatient stay and financial burden to the NHS. The British Association of Day Surgery recommends a target of 30% of mastectomies to be carried out as a day case, yet concern remains as to whether this increases complications or is acceptable to patients. Presented here is an analysis of patient experience and complication rates for mastectomy patients, comparing day case to inpatient stay.
Methods: All patients undergoing mastectomy, with or without axillary surgery, between December 2015 and December 2016 were identified. Exclusion criteria were bilateral procedures or reconstruction. Eligible patients were asked to complete a Utrecht Patient satisfaction questionnaire and all complication data were recorded using the Clavien-Dindo Scale. Satisfaction outcomes and complication rates in those undergoing mastectomy as a day case or as an inpatient were compared using the student's T-test.
Results: 217 patients were identified, 145 (67%) were eligible for inclusion. 86 patients (59%) completed the Utrecht patient satisfaction questionnaire (26 day case, 60 inpatients). There was no statistically significant difference in overall satisfaction (day case 6.76, inpatient 6.15, p=0.37) nor in whether patients found the first night harder (day case 3.192, inpatient 2.80, p=0.59). Complications were 13% in the day case group versus 21% in the inpatient group with no significant difference in grade of complication.
Conclusions: Day case mastectomy is acceptable to patients and does not increase complication rates. All breast units should consider day case mastectomy for suitable patients.

P070
SUBCUTANEOUS PAIN CATHETERS IN IMPLANT-BASED RECONSTRUCTION OFFER SHORT AND LONG-TERM BENEFITS TO PATIENTS POST-OPERATIVELY

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Introduction: Persistent pain following breast cancer surgery affects 25 - 60% of patients. Meta-analysis identified significant associations between greater acute post-operative pain, radiotherapy, axillary node clearance (ANC) and younger age.
Continuous wound infusion catheters (CWIC) significantly improve post-operative pain scores. LANSS questionnaire demonstrates diagnostic accuracy in assessing neuropathic pain. This study aims to determine if optimisation of early post-operative pain translates into reduced neuropathic pain at one year.
Methods: Sixty patients undergoing mastectomy with sub-pectoral implant based reconstruction participated, completing the LANSS questionnaire pre-operatively. Blinded to patient participation surgical and anaesthetic teams determined which patients received CWIC. Thirty-four received CWIC. Visual analog scale (VAS) measurements and analgesia use were recorded for the first post-operatively week. At 12 months the LANSS questionnaire was repeated.
Results: No difference in age, ANC, post-operative radiotherapy or pre-operative pain (p=0.899, p=0.782, p=0.834, p=0.371) was found between groups. From 6 hours onwards pain scores were lower in the CWIC group, (T-test p=0.031, 0.019, 0.021, 0.020 and 0.041 at 6, 12, 24, 48 hours and 1 week). Replicated in analgesia use.
LANSS scores ≥12 indicate likely neuropathic pain element. LANSS scores at 12 months, seven in the CWIC and eleven in the non-CWIC group, scored ≥12 (Chi-Square Test p=0.041).
Conclusions: CWIC offers a potential route for reducing early post-operative pain and late neuropathic pain. Post-operative pain control is multifactorial as are factors affecting patient's perception of pain. Increasing understanding of acute and chronic pain is important in reducing patient distress and improving function.

P071
GENE-TESTING IS FEASIBLE IN THE BREAST CLINIC– A PILOT STUDY IN A COHORT OF BREAST CANCER PATIENTS (GENERATE)

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Introduction: Inherited mutations in the BRCA1 & BRCA2 gene are known to increase the risk of breast and ovarian cancer. There is an up to 85%

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lifetime risk of developing breast cancer in healthy carriers. Once diagnosed with breast cancer there is a 50% increased risk of contralateral breast cancer 25 years from initial diagnosis. As such, identifying these patients through genetic testing enables clinicians to offer early risk-reducing strategies for breast and ovarian surgery. The "Angelina Jolie effect" has seen a 250% increase in referrals to genetic services. Our unit is one of the first in the UK offering genetic-testing (GENERATE) as part of routine breast cancer care. This is a retrospective cohort study of breast cancer patients enrolled into the GENERATE project.
Methods: Retrospective data collection including patient demographics, tumour biology and genetic test results.
Results: 27 patients underwent genetic-testing over 21 months. Median age was 43 years (range 28–61). Median time between consent and results was 33 days (range 21-52). Fifteen patients (56%) had triple negative breast cancer and all patients were HER2 negative. 5/27 patients (19%) were strongly ER positive and 6/27 patients (22%) were weakly ER/PR positive. Data on ER/PR/HER2 status was not available for one patient. One patient carried the BRCA2 gene and one patient carried a variant BRCA2 gene.
Conclusions: The GENERATE project has enabled access to genetic-testing from the breast clinic thus identifying individuals at higher risk of developing further breast cancers and therefore informing clinical management.

P072
BREAST CARE NURSES– A PIVOTAL ROLE IN GENETIC TESTING IN THE BREAST CLINIC

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Introduction: Mainstream genetic testing aims to integrate genetic testing into the cancer patient pathway. This streamlines the process for selected breast cancer patients, enabling them to consider risk-reducing strategies if tested positive. The role of the breast care nurse is crucial as they are involved in all stages of this process.
Method: Breast care nurses underwent an intensive training programme, addressing the consent process and considerations around genetic testing. Patients who fulfilled the criteria for gene testing were identified from the MDT. This included triple negative breast cancer diagnosed under the age of 50 years, bilateral breast cancers (first cancer under 40 years) and male breast cancer. Genetic testing involved counselling the patient and taking a blood test. The role of the breast care nurses was evaluated.
Results: A total of 27 patients fulfilled the set criterion and underwent genetic testing from February 2016 to November 2017. The breast care nurses counselled all 27 patients, took formal consent and took the blood test. Once results were available, all patients were notified by telephone or letter by breast care nurses. One patient tested positive for the BRCA2 gene and one patient carried a variant of unknown significance. Both patients were referred on to the regional genetic centre for full assessment.
Conclusions: Breast care nurse led mainstream genetic testing is feasible in the breast clinic setting. Training to counsel suitable patients is mandatory to ensure that clinical misinformation is minimised.

P073
BREAST DENSITY, METABOLIC SYNDROME AND BODY COMPOSITION IN BREAST CANCER

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Background: Metabolic-syndrome (MetS) is prevalent among post-menopausal breast-cancer patients and is associated with increased breast-cancer risk. Mammographic breast-density (BD) is also associated with increased breast-cancer risk. The relationship between MetS and BD is unclear and requires further investigation.
Aim: The aim of this study was to examine the relationship between MetS and its component-features with BD.
Methods: With appropriate ethical-approval, 112 post-menopausal breast-cancer patients were recruited. Body-composition and metabolic-profiles were measured in participants. MetS was defined according to the International Diabetes Federation (IDF) criteria. BD was classified according to the Breast Imaging Reporting and Data System (BI-RADS). Group-means were compared using unpaired t-tests for parametric or Mann-Whitney tests for non-parametric data. Categorical-data was analysed using Fisher's-exact test or Chi-squared test as appropriate.
Results: An inverse relationship was observed between measures of adiposity and BD. Participants with 'dense' (BI-RADS 3/4) breasts had significantly lower BMI ($p=0.0034$), waist-circumference ($p=0.0007$), systolic blood-pressure ($p= 0.03$), circulating insulin ($p=0.009$) and glycated-haemoglobin ($p=0.008$) than those with 'less-dense' (BI-RADS 1/2) breasts. HDL was significantly higher in those with 'dense' versus those with 'less-dense' breasts ($p=0.03$). Participants with 'less-dense' breasts were significantly more likely to be insulin-resistant (HOMA-IR ≥ 2) than those with 'dense breasts' (50.6% versus 20% respectively); $p=0.01$. No differences in overall-survival were observed between participants with 'Dense' versus those with 'Less-Dense' breasts.
Conclusion: It is unlikely that the MetS is related to an increase in breast-cancer risk through a mechanism involving BD. Further work on this study is underway and will involve adjusting for potential confounders.

P074
BREAST SURGERY SPECIFIC PATHOLOGY REQUEST FORMS IMPROVE COMPLIANCE WITH ROYAL COLLEGE OF PATHOLOGISTS GUIDELINES

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Introduction: Recording accurate clinical details is of paramount importance for pathologists reporting breast histology. The Royal College of Pathologists (RCP) produced guidelines for pathology examination of screen-detected and symptomatic breast lesions. This includes recommendations for forms to follow a standardised approach with inclusion of specific details including location of tumour and previous biopsy results. We audited our standard pathology request forms, then designed a breast-specific pro forma and re-audited compliance with recommendations.
Methods: From September-October 2017, 20 pathology forms from breast-surgery patients were reviewed. Data collected included patient details, date of surgery, laterality, tumour location, imaging details, biopsy results and orientation details. After implementation of the breast-specific pro forma the same data were collected from a further 20 pathology request forms. Not all fields were applicable to each operation. Audit registered with Trust.
Results: All standard request forms had accurate patients details, date of surgery and surgery laterality. Of relevant parameters only 4/18 (22%) included location of tumour, 7/15 (47%) imaging results, 16/17 (94%) biopsy results, 14/16 (88%) orientation and 3/6 (50%) localisation method. Using the breast-specific pro forma 15/18 (83%) included location of tumour, 9/20 (45%) imaging results, 19/20 (95%) biopsy results, 20/20 (100%) orientation and 10/10 (100%) localisation method. The radiology department, who currently image all wire-guided excisions, feedback included greater clarity in surgical information and surgeons said the breast-specific pro forma decreased likelihood of missing important information pathologists require.
Conclusions: Implementation of a breast-surgery specific pathology form significantly improved compliance of RCP recommendations and facilitated easier working for several MDT members.

P075
DOES THE INTRODUCTION OF CONTEMPORANEOUS ELECTRONIC RECORDS IMPACT ON PATIENT EXPERIENCE?

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Introduction: Electronic patient records promise easy access, legibility, and improved data analysis but are perceived as a communication barrier. The NHS friends and family (NHS F&F) feedback tool is the most frequently used patient reported outcome measure worldwide. This study assessed the impact of introducing contemporaneous electronic patient records in an initial assessment breast clinic at a tertiary breast surgery unit using the NHF F&F tool.

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Method: 100 NHS F&F forms were completed by patients seen by a single clinician at a single one-stop breast assessment clinic prior to introducing electronic notes.
During this baseline period all notes were hand written on medical continuation sheets. Requests for imaging were made using Lorenzo software and results were accessed using a combination of software at all times.
Bespoke electronic clinical data capture forms for new patients were created locally by programmers and clinicians within Lorenzo. On introducing electronic notes the same clinician collected NHS F&F forms marked as either P (notes recorded on paper) or L (notes recorded on Lorenzo). Numerical values were given from 5 (extremely likely to recommend) to 1 (extremely unlikely to recommend).
Results: 39 NHS F&F forms were analysed (11 notes recorded on paper, 28 notes recorded on Lorenzo). There was no significant change in F&F scores between baseline (4.8), paper notes (4.8) or electronic notes (4.9) during the trial period. There were no negative comments relating to electronic notes.
Conclusions: Patient experience was not reduced by contemporaneous electronic notes.

P076
PRIMARY TUBERCULOSIS OF FEMALE BREAST: A STUDY OF 100 CASES

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Background: Tuberculosis of breast is uncommon especially in Western literature. But it is often encountered in a TB endemic region. The diagnosis is not straightforward hence the suffering is prolonged.
Methods: The aim of this observational study was to report the clinical presentations, investigation and management of patients having mammary tuberculosis, attending specialists in Bangladesh, a tuberculosis endemic country, over a time span of 7 years.
The mean age of our patients 29 years and 14% being lactating while 4% being pregnant. 23% came from low income families. 88% presented with breast lump with a mean size of 4 cm. 73% had little or no tenderness. 9% and 14% respectively had discharging sinus and skin ulceration. While 26% and 3% respectively had nipple retraction and blood stained nipple discharge. 14% had axillary lymphadenopathy. 37% had ESR between 41 to 60 mm and 42% had 10 to 20 mm induration at Mantaux test. On FNAC 55% cases showed epithelioid cells and caseous material while in 33% cases showed epithelioid cells but no caseous material. Meanwhile histopathological examination of tissue showed epithelioid cells and giant cells in almost all the cases. Anti-tubercular chemotherapy was prescribed in all patients but almost all except 3 required surgical intervention also. In 65% patients ATT was given for 6 months, in others the duration was longer.
Conclusion: Mammary tuberculosis, although uncommon, is not rare. High index of suspicion is needed for diagnosis. Once confirmed, the treatment outcome is often rewarding.

P077
FAMILIAL BREAST CANCER SERVICES– WHAT ARE WE CURRENTLY DOING IN THE WEST MIDLANDS?

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Introduction: Individuals with a familial breast cancer risk are offered surveillance and risk-reducing strategies based on their level of risk. The NICE 2017 updated guidelines describe the management of this cohort of individuals. The West Midlands region serves a population of over 5 million people – almost 10% of the population of the UK. There is a paucity of information on our practices in this region related to familial breast cancer patients.
Methods: We undertook a Survey Monkey questionnaire of all breast units in the region to gauge current practice. Units were asked if:

- Patients are seen in dedicated family history clinics.
- Written protocols exist.
- They have access to ongoing audit and research projects.
- Whether there is a discussion of risk-reducing mastectomy patients in an MDT process.
- Whether they have access to psychology and genetics services.

Results: 80% of hospitals in the region responded (12/15). All units discuss RRM in their MDT and refer to genetics with 92% referring to psychology services. 75% have written protocols. Only 42% of hospital had a dedicated family history clinic with a similar proportion enrolling individuals into audit and research.
Conclusions: There is a clear gap in the equity of services in the West Midlands. To address this and ensure best practice (NICE guidance) we have initiated collaborative working in the West Midlands and are working towards setting up a regional family history service.

P078
SHORT-TERM PATIENT OUTCOMES FOLLOWING IMMEDIATE BREAST RECONSTRUCTION USING TILOOP MESH IMPLANT

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Introduction: The titanised mesh TiLOOP Bra is used for immediate subpectoral and more recently pre-pectoral breast reconstruction. It is an attractive alternative to ADMs, at a fraction of the cost. The aim of this ongoing multicentre prospective audit is to report patient outcomes following use of TiLOOP Bra.
Methods: Patient electronic and case notes were obtained and data entered on the REDCap database.
Results: Between February 2016 and November 2017, 37 women underwent immediate breast reconstruction using TiLOOP Bra. 21 of 37 women (56.8%) underwent pre-pectoral and 16 (43.2%) sub-pectoral reconstruction. Average age was 46.6 years (range 18 - 73). Implant loss rate was 3.8% (1 case).
Indications for surgery were invasive breast cancer in 20 patients (54.1%), DCIS in 4 (10.8%) and risk reducing surgery in 13 (35.1%). The majority of cases underwent nipple sparing mastectomy (62.2%). Average inpatient stay was 2 days (range 0-4).
At one-month follow-up, 26 women were available for review. There was one case (3.6%) each reported of: implant loss, return to theatre, readmission to hospital, haematoma. Seroma requiring aspiration occurred in 3 cases (11.5%). There were no cases of wound dehiscence, skin flap or nipple necrosis.
Four women reported pain in the reconstructed breast (16.7%) and 1 (4.2%) noted a problem with ipsilateral shoulder function. These had all undergone subpectoral reconstruction.
Conclusions: Implant loss using TiLOOP Bra is less than national average for implant-based reconstruction. Increased pain and decreased shoulder function were seen in women undergoing sub-pectoral reconstruction, suggesting that potentially, pre-pectoral reconstruction offers an advantage.

P079
OUR EXPERIENCE OF USING REGENERYS CRYOPRESERVATION SYSTEM FOR PATIENTS REQUIRING SERIAL LIPOMODELLING

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Introduction: Demand for breast reconstruction following breast-cancer surgery has increased along with patients' expectations for good aesthetic results. Indications for lipomodelling include asymmetry, autologous flap failure and volume loss following WLE. The

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amount of tissue that can be injected and successfully re-vascularised (e.g. during Coleman technique) is limited and some patients require multiple sessions of lipomodelling. Harvesting fat required in one sitting reduces donor-site morbidity, length of operation and inpatient stay. By using fat storage (e.g. Regenerys), fat can be harvested using surgeon's method of choice, processed and re-injected without further harvest.

Method: All breast surgery patients from April 2016 to December 2017 undergoing fat harvesting and storage were identified and data collected including patient demographics, indication for surgery and volume harvested and injected.

Results: 23 patients had fat harvested and stored during the 20-months. Median age of patients was 49 years (range 29-67) and median BMI 26kg/m^2 (range 20-38). Indications for lipomodelling included increasing volume post-autologous reconstruction, thin mastectomy flaps in implant reconstructions and defects after WLE. Median amount of fat harvested was 975ml (range 570-2200). The lipomodelling at first operation injected median of 203ml (range 90-420). Of 17/23 patients having a second operation median fat injected was 160ml (range 105-373), and 5/23 patients had a third lipomodelling with median fat injected 121ml (range 55-183).

Conclusion: Other studies used this technique in patients requiring smaller volumes than those required in our study. We conclude this system allowed for serial injection of relatively large volumes with minimised donor-site morbidity.

P080

COAGULATION AS A PHARMACODYNAMIC BIOMARKER IN BREAST CANCER: CHANGES IN TUMOUR EXPRESSION OF EXTRINSIC CLOTTING FACTORS IN RESPONSE TO BREAST CANCER TREATMENT

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Introduction: Short term treatment of ER-positive early breast cancer (EBC) with aromatase inhibitors (AI) inhibits proliferation.

POETIC is a phase III RCT (AI vs control) for post-menopausal women with ER-positive EBC to determine whether perioperative AI improves outcome vs standard adjuvant therapy alone.

In a sub-study of POETIC, we sought to identify novel biomarkers of EBC response to treatment, exploiting the role of the extrinsic clotting pathway and circulating tumour cells (CTCs) in cancer dissemination.

Methods: In newly diagnosed ER-positive EBC patients, tissue and blood were collected at diagnosis (prior to AI/control), at surgery and two weeks postoperatively. Epithelial and stromal expression of clotting pathway markers (Tissue-Factor, Thrombin, PAR1, PAR2), CTCs (CellSearch) and plasma Tissue-Factor, Thrombin-Antithrombin-III (TAT) and D-dimer (immunoassay) were measured.

Results: PAR1 cytoplasmic expression and nuclear thrombin expression were lower at surgery compared to baseline (both groups). Cytoplasmic thrombin expression increased in the AI group only.

Peritumoural fibroblast expression of thrombin decreased in the control group (37.3% vs. 24.9%,$p<0.02$). Conversely, in the AI-treated group peritumoural fibroblast expression of thrombin increased (39.0% vs. 47.8%,$p<0.01$) but this was not observed in fibroblasts distant (>0.5mm) from the tumour.

There was a reduction in CTCs following surgery, which was more marked in the AI group (Mean CTC-count normalised to baseline, Control: 0.43, AI: 0.12)

Conclusions: Thrombin expression appears to become concentrated to peritumoural fibroblasts and epithelial cytoplasm following AI treatment. The planned correlation of these datasets with Ki67 may identify the impact of anti-proliferation treatments on peritumoural coagulation activity.

P081

UPDATE FOR THROMBIN INHIBITION PREOPERATIVELY (TIP) IN EARLY BREAST CANCER, THE FIRST CLINICAL TRIAL OF DOACS AS AN ANTI-CANCER AGENT

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Introduction: The extrinsic clotting pathway promotes cancer progression and is upregulated in aggressive breast cancer subtypes (ER-ve, high proliferation). Cancer stem-like cells (CSCs) are a subpopulation of cancer cells that are resistant to treatment and play a role in recurrence.

The aim of the TIP trial is to determine whether 14 days of a pre-operative oral Factor-Xa inhibitor (rivaroxaban) in early breast cancer patients inhibits tumour proliferation (Ki67) from baseline (pre-treatment) to post treatment (primary aim) and inhibits CSC activity (secondary aim).

Methods: A multi-centre phase II pre-operative 'Window-of Opportunity' RCT of rivaroxaban vs no treatment in ER-ve, stage I-III early breast cancer patients (n=88). Patients are randomised 1:1 and receive 14 days of treatment in the window between diagnosis and surgery or neoadjuvant chemotherapy.

Tumour tissue at diagnosis is compared to surgical excisional tissue or core biopsy tissue at 14 days (prior to starting chemotherapy). Randomisation is blinded to pathologists, but not to patients or clinicians.

For the first time in an RCT, mammosphere formation from fresh tumour tissue is being assessed as a real-time measure of CSC activity.

Results: Recruitment commenced in May 2017. Currently 6 centres are recruiting, 4 further centres are planned and 20% of patients have been recruited. Mammospheres have been successfully generated from 8/12 fresh tumour samples that have been collected.

Conclusions: Primary mammosphere formation, although labour intensive, is feasible in the research setting as a potential biomarker of drug effect on CSC activity.

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P082

PATIENT LEVEL COSTS OF MARGIN EXCISION AND RE-EXCISION FOR BREAST CONSERVING SURGERY

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Introduction: High reoperation rates (≈20%) following breast conserving surgery (BCS) for positive margins are associated with increased physical and psychological morbidity and represent a likely significant and yet unknown cost burden to the NHS. Our aim was to compare financial costs between patients undergoing successful BCS versus re-operative breast surgery and to investigate driving factors responsible for costs.

Methods: Financial data was retrieved retrospectively for patients receiving BCS +/- re-operation between April 2015 and March 2016, as part of a Service Evaluation [Registration Number=146] using Patient-Level Information and Costing Systems (PLICS). Statistical analysis was conducted using STATA 14.2, including descriptive statistics, ordinary least squares (OLS) and Propensity Score Matching Analysis (PSMA).

Results: 153 patients underwent definitive BCS and 59 patients underwent re-operative surgery. The total cost of definitive BCS was £421,110

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with a median cost of £2,375 (IQR: £1624, range £836 - £8260). Overall, the median cost of BCS and re-operation was £4,511 (n=59), an additional £2,136 per patient compared to the median cost of £2,275 for definitive BCS ($p<0.001$). Approximately 42% of total BCS costs were attributed to 24% of all patients (51/212) who received >1 re-operation.
Conclusion: This study is the first cost comparison between definitive BCS and re-operative surgery in the UK, interrogating direct patient level costs including operating theatre time, medical staffing, and laboratory investigations. Re-operation has significant cost implications and implementation of intra-operative margin assessment technologies could result in both quality improvement and substantial savings to the NHS.

P083
EVIDENCE FOR THE ROLE OF PROCOAGULANT STROMAL FIBROBLASTS IN THE PROGRESSION OF DUCTAL CARCINOMA IN SITU

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Introduction: Stromal fibroblasts play an active role in the transition from DCIS to invasive cancer by developing a malignant phenotype and facilitating cancer progression. We previously demonstrated that fibroblast expression of procoagulant markers are increased in DCIS compared to normal breast.
We sought to investigate *in vitro* whether the procoagulant microenvironment has a functional role in tumour development.
Methods: In an *in vitro* acini formation assay, MCF10A ('normal') and DCIS.com cells were co-cultured with tissue-factor overexpressing (TFOE) human mammary fibroblasts or control fibroblasts with or without direct oral anticoagulants rivaroxaban (direct Factor-Xa inhibitor) or dabigatran (direct thrombin inhibitor). MCF10A cells were cultured with conditioned media from TFOE and control fibroblasts. Acini formation, an in vitro surrogate for tumour development, was determined.
Results: In MCF10A/DCIS.com and fibroblast co-culture, acini formation increased in the presence of TFOE fibroblasts vs control fibroblasts (MCF10A mean acini diameter 124.8μm vs. 140.7μm, *p=0.0008;* DCIS.com 101.1μm vs. 108.4μm, *p=0.02*).
This effect was abrogated by rivaroxaban (MCF10A 140.7μm vs. 126.9μm, *p=0.0013;* DCIS.com 108.4μm vs. 92.7μm, *p<0.0001*). This effect was also abrogated by dabigatran (MCF10A 140.7μm vs. 118.6μm, *p<0.0001;* DCIS.com 108.4μm vs. 89.6μm, *p<0.0001*).
MCF10A acini formation increased in the presence of conditioned media from TFOE fibroblasts vs control fibroblasts (123.6μm vs. 138.3μm, *p=0.0021*). This effect was abrogated by both rivaroxaban (138.3μm vs. 110.4μm, *p<0.0001*) and dabigatran (138.3μm vs. 117.4μm, *p<0.0001*).
Conclusions: Procoagulant fibroblasts promote acini formation. This effect is abrogated by the anticoagulants rivaroxaban and dabigatran. Coagulation therefore represents a novel therapeutic target in breast cancer development.

P084
INTRODUCTION OF A CLERKING PRO FORMA FOR NEW MALE BREAST REFERRALS: CAN IT IMPROVE CONSISTENCY OF ASSESSMENT AND REDUCE FOLLOW-UP APPOINTMENTS?

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Introduction: The UK Cancer Reform Strategy Breast Cancer Working Group *"Best Practice Diagnostic Guidelines"* includes guidance regarding the assessment of breast lumps in men. Male breast cancer is rare therefore the majority of these lumps will be benign. In our unit, new male patients are seen by a registrar or staff grade, who may be a locum. Therefore, to improve the consistency of assessment a Male Breast Patient Clerking pro forma was introduced, which was based on national guidelines. It was hoped the pro forma could also reduce follow-up appointments; therefore a tick-box indicated if it was suitable to convey results of further tests in writing.
Methods: A retrospective audit was conducted of all new male patients referred to clinic by GP over 6 months either side of the introduction of the pro forma in January 2017. Data was obtained from patient notes and the ICE results database.
Results: 60 patients were included. 32 post- and 28 pre-introduction of the pro forma.
Compliance with the pro forma was 94%.
98% were diagnosed with benign diseases.
The number of patients fully clinically assessed according to guidelines increased by 7% post introduction.
The number of patients requiring a clinic follow-up appointment decreased by 19% post introduction.
Conclusions: Marginal improvements were seen in fullness and consistency of clinical assessment. However, introducing the pro forma has reduced the number of follow-up appointments equating to a saving of £1,346 for every 100 patients. This allows other patients to be seen in these slots, hence improving efficiency.

P085
DOUBLE-BLIND CONCORDANCE STUDY OF BREAST CANCER TREATMENT RECOMMENDATIONS BETWEEN MULTIDISCIPLINARY TUMOUR BOARD AND AN ARTIFICIAL INTELLIGENCE ADVISOR - WATSON FOR ONCOLOGY

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Introduction: Breast cancer oncologists are challenged to personalize care with rapidly changing scientific evidence, drug approvals, and treatment guidelines which Cognitive clinical decision-support systems (CDSSs) have the potential to help address. We report here the results of examining the level of agreement (concordance) between treatment recommendations made by CDSS Watson for Oncology (WFO) and a multidisciplinary tumor board for breast cancer.
Methods: Treatment recommendations were provided for 638 breast cancers between 2014 and 2016 at the Manipal Hospital, Bengaluru, India. WFO provided treatment recommendations for the identical cases in 2016. A blinded second review was performed by the center's tumor board in 2016 for all cases in which there was not agreement, to account for treatments and guidelines not available before 2016. Treatment recommendations were considered concordant if the tumor board recommendations were designated "recommended" or "for consideration" by WFO.
Results: Treatment concordance between WFO and the multidisciplinary tumor board occurred in 93%. Subgroup analysis found that patients with stage I or IV disease were less likely to be concordant than patients with stage II or III disease. Increasing age was found to have a major impact on concordance. Concordance declined significantly ($p\leq0.02$; $p<0.001$) in all age groups compared to patients <45 years of age, except for the age group 55–64.
Conclusion: Treatment recommendations made by WFO and the tumor board were highly concordant for breast cancer cases. WFO may be a helpful tool for breast cancer treatment decision making, especially at centers where expert breast cancer resources are limited.

P086
INVASIVE LOBULAR CARCINOMA AND BILATERAL BREAST CANCER: RESULTS FROM A COHORT OF PATIENTS WITH METACHRONOUS AND SYNCHRONOUS DISEASE

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Bilateral breast cancer (BBC) is a rare phenomenon that has been associated with a lobular phenotype. Based on our clinical impression that this association may not be accurate, we hypothesised that lobular phenotypes would not be represented more often in a cohort of patients with BBCs and that there would be no difference in the representation of lobular phenotypes between patients with synchronous and metachronous BBCs.
We retrospectively identified patients who were diagnosed with BBCs at our tertiary referral centre (2012-2016). Synchronous disease was defined as development of a new breast cancer on the contralateral side <12

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months from initial diagnosis. Right and left breast cancers were coded separately by histological type. We compared our cohort of BBCs to a unilateral cohort of 903 patients from the same institution, published previously (1998-2007).
136 patients were identified with BBCs. Treating each tumour as a separate entity, there were 118 metachronous tumours and 154 synchronous tumours. Lobular phenotypes were seen more frequently in the bilateral cohort compared to the unilateral cohort (14.0% (n=38) vs 11.4% (n=103); X^2=252.26, p=0.000). Lobular phenotypes were seen more frequently in the synchronous group compared to the metachronous group (19.5% (n=30) vs 6.8% (n=8); X^2=16.52, p=0.036).
Contrary to our hypothesis, we observed a higher frequency of lobular phenotypes in our BBC cohort compared to the unilateral cohort and a higher frequency of lobular phenotypes in patients with synchronous disease. Further work is required to determine the effect of lobular phenotypes on survival in both metachronous and synchronous BBCs.

P087

THE RATE OF UNNECESSARY AXILLARY NODE CLEARANCE AND PREDICTORS OF LEVEL 3 NODAL DISEASE

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Background: This study aimed to identify the rate of unnecessary axillary node clearance (ANC) and identify predictors of non-sentinel node positivity, particularly, factors predicting level 3 involvement.
Methods: Electronic patient records of 684 patients who underwent ANC between 2007 and 2016 at the Royal Hallamshire Hospital, Sheffield, UK were reviewed. Clinico-pathological characteristics were used to identify factors predicting LN metastasis.
Results: Of all patients who have had ANC, 41.8% (286/684) had no further nodal disease beyond the sentinel nodes (SLNs). Larger tumours, higher grade, ILCs, lymphovascular invasion (LVI) and negative ER status predicted LN positivity beyond SLNs. Level 3 disease was higher in larger tumours [12.5% (37/296), 19.6% (50/255) and 48.5% (32/66) for T1, T2, and T3 tumours respectively (P < 0.0001)]; Grade 3 tumours [24.8% (71/286) vs 15.1% (41/271) in G2 and 5.4% (2/37) in G1 tumours (P = 0.0059)]; ILCs [33.0% (29/88) vs 17.6% (84/478) in IDCs (P = 0.002)]; LVI [27.8% (64/230) vs 13.3% (37/278) in no LVI (P < 0.0001)]; ER negative tumours [29% (29/99) vs 16.5% (68/411) in ER positive patients (P = 0.0063)]. False-negative rate of axillary USS was 34.7% (111/320). No patient with normal USS and G1 tumour had level 3 disease.
Conclusion: Unnecessary ANC rate in our patient cohort was significantly high. Larger tumours, higher grade, ILC, LVI and ER-negativity were predictors of disease beyond SLNs, particularly, level 3 involvement. Development of an accurate model of predicting LN metastasis beyond SLNs is urgently required to reduce the rate of unnecessary ANC.

P088

IS THE CURRENT THRESHOLD FOR STAGING TOO HIGH? AN AUDIT OF RADIOLOGICAL STAGING IN PATIENTS WITH A POSITIVE SENTINEL NODE BIOPSY AGAINST CURRENT GUIDELINES

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Introduction: Radiological staging for distant metastases in early breast cancer is controversial. The 'Clinical Advice to Cancer Alliances for the Provision of Breast Cancer Services 2017' guideline advises staging patients with four or more involved axillary lymph nodes (LN) or total tumour size (TTS) >50 mm. This is an audit of patients with primary breast cancer, clinically node-negative at presentation but ≥1 positive sentinel LN (+SLN), who subsequently had metastatic disease on staging, to retrospectively investigate if they met the guidelines for staging.
Methods: A retrospective audit (no.17 - 3204) was performed in a single UK Breast unit using clinical systems. Patients diagnosed with primary breast cancer 01.01.2013 – 01.10.2017 with +SLN who underwent staging investigations peri-operatively were included.
Results: 250 patients had +SLN and staging, 68 (27%) met guidelines for staging. 28 (11%) had TTS > 50 mm, 33 (13%) had ≥ 4 +LN (at subsequent axillary node clearance), 7 (3%) had both. Staging used CT scan (17 (7%)), bone scan (6 (2%)) or both (227 (91%)). 12 (4.8%) of all patients studied had at least one distant metastasis: Only 5 (42%) met guidelines for staging. 2 had TTS > 50 mm and 3 had ≥ 4+ LN.
Conclusion: The majority of patients in this study with metastatic disease at presentation did not meet criteria for radiological staging by the Cancer Alliances guidelines, therefore would not be diagnosed with metastatic disease early in their treatment pathway. We recommend staging in all appropriate patients with +SLN.

P089

A PEA-SIZED PROBLEM: CORRELATION OF LUMP SIZE DESCRIPTORS AND LIKELIHOOD OF BREAST CANCER IN REFERRALS TO A ONE-STOP BREAST CLINIC

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Introduction: General practitioners often give a simile when describing a breast lump. We aimed to assess whether patients with 'pea-sized' lumps had a similar prevalence of breast cancer compared with larger lumps or other symptoms.
Method: Referral letters reviewed for all female patients referred as 'Urgent Suspicion of Cancer' (Scottish '2-week wait') between 1st January & 30th June 2017.
Referrals stratified into 'lump' and 'non-lump' symptoms: the former further stratified if containing sub-centimetre descriptors (size <10mm; 'pea-sized'; 'bean-sized'; 'rice grain'; 'tiny').
Result: 904 referrals: 23 excluded (6 DNAs, 17 incomplete) study population n= 881.
Median age 47 years (15-92); 59 diagnosed with breast cancer or DCIS (7%). 592 (67%) referrals contained the word 'lump': of these 116 were sub-centimetre (20% of 'lump' referrals; 13% of total). 289 referrals had non-lump symptoms.
Patients with sub-centimetre lumps were younger, though not significantly (median age 44 vs 47: Mann Whitney P=0.06); and were significantly less likely to have imaging than patients with larger lumps (84% vs 93%: Fisher's exact P=0.002).
Patients with sub-centimetre lumps were less likely to have cancer/DCIS compared with larger lumps, though not significantly: 4 (4%) vs 36 (8%); Fisher's exact P=0.15.
Conclusion: A pea-sized problem is usually just that: with a 4% chance of breast cancer, this should be reassuring to patients referred with sub-centimetre lumps. This is in the context of a low prevalence of breast cancer in patients referred urgently. These results do not support downgrading of referral urgency based on a sub-centimetre description.

P090

EVALUATION OF ONE HUNDRED PREPECTORAL IMPLANT-BASED RECONSTRUCTIONS USING BRAXON® FROM A SINGLE INSTITUTION

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Introduction: Implant-based immediate breast reconstruction (IBR) is the most common technique for post-mastectomy reconstructions in the United Kingdom (UK). Placement of implant in the subcutaneous pocket covered by an acellular dermal matrix (ADM) is a relatively recent approach. We report on outcomes of 100 prepectoral IBR using Braxon® from a single institution.
Methods: Prospectively maintained database of all patients who underwent a mastectomy and IBR with a prepectoral implant and Braxon from January 2016 to December 2017 in a single breast unit was assessed. Patient demographics, operative details, immediate and delayed complications were recorded. Factors affecting complication rates were analysed.

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Results: One hundred and one reconstructions performed in 88 patients were included in the analysis with a median follow-up of 10 months. The median age of the cohort was 50 years with a mean BMI of 27.56 kg/m^2. Mean hospital stay was 1.58 days. 72% of the patients received chemotherapy and 41% patients received adjuvant radiotherapy. Major implant related complication rate was 13.6% with three patients losing implants. Of the factors analysed for their effect on peri-operative complications, none reached statistical significance on Chi-square test. Invasive cancers [OR: 2.5, 95% CI (0.981-6.371), p = 0.055] and node positive status [OR: 2.58, 95% CI (0.936-7.154), p = 0.067] had a trend towards statistical significance on univariate logistic regression model. None of the factors were significant on multivariate analysis.
Conclusions: Prepectoral implant-based reconstruction using Braxon® has acceptable peri-operative outcomes. Further studies to ascertain long-term outcomes need to be conducted.

P091
ROLE OF AXILLARY ULTRASOUND FOR EARLY BREAST CANCER IN THE ERA OF Z0011: TIME TO REDEFINE?

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Introduction: Ultrasound with concurrent histology of abnormal axillary lymph nodes has revolutionised the treatment of patients with breast cancer. By identifying nodal metastases, patients can avoid a two-stage axillary procedure. However, the results of the American College of Surgeons Oncology Group Z0011 trial indicate that a certain group of patients may have been over treated with axillary dissection. Our aim was to analyse the nodal burden of patients identified by axillary ultrasound and to determine the proportion of patients who could have foregone axillary dissection incorporating Z0011 trial.
Methods: A retrospective analysis of patients with diagnosed breast cancer who underwent direct axillary dissection was performed. Based on nodal metastases patients were categorised into 'extensive and minimal' groups and studied. Demographics and tumour characteristics were analysed and eligibility for the Z0011 study was determined.
Results: All 1745 patients diagnosed with breast cancer underwent axillary ultrasound from April 2009 to March 2015. Of these, 197 patients had histology-proven nodal metastases and underwent direct axillary lymph node dissection. One hundred and twenty one patients (61.4%) had extensive and 76 patients (38.6%) had minimal nodal metastases. Of the latter, 23 patients (11.7%) fulfilled the Z0011 criteria.
Conclusion: This study demonstrated that a large proportion of patients had minimal nodal involvement (38.6%), in contrast to the results published in the literature. In addition, a significant number of patients could have avoided axillary dissection (11.7%) based on the Z0011 criteria. Hence our study encourages to redefine the role of axillary ultrasound to avoid unnecessary axillary dissection.

P092
OLIGOMETASTASIS IN BREAST CANCER: TREATING WITH CURATIVE INTENT

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Introduction: Stage-IV breast cancer is considered incurable and treated with palliative intent. Oligometastatic breast cancer (OBC) represents a subset of stage-IV breast cancer with fewer numbers and sites of metastases. The definition and outcomes of this subset of patients are not well recognised with lack of data in literature. Treatment of these patients has been controversial with some centres adapting a curative approach with encouraging results. We analysed survival outcomes in patients of OBC at a single centre over an eight-year period.
Methods: Somerset database was reviewed for all patients diagnosed with metastatic disease from Jan-09 to Dec-16. Patients meeting the criteria for OBC were included in the analysis. All patients received treatment with palliative intent. Demographic factors, treatment details, progression free survival (PFS) and overall survival (OS) were analysed. Factors affecting survival were studied.
Results: Thirty-two patients were diagnosed with OBC in the given period. Mean age at diagnosis was 61 years. The median follow-up was 44.8 months. Median PFS and OS rates were 23.2 months and 70 months respectively. One-year, 3-year and 5-year PFS were 59%, 29% and 18%, and the corresponding rates for OS were 72%, 63%, and 50%. Receptor status (p = 0.036) and visceral metastases (p = 0.038) had a significant impact on OS. None of the factors had an impact on PFS or OS on multivariate analysis.
Conclusion: OBC has better outcomes as compared to Stage-IV disease with multiple metastases and should be considered for treatment with a curative intent.

P093
THE EFFECT OF RADIOLOGICAL UNDERESTIMATION OF TUMOUR SIZE ON RE-EXCISION RATES IN BREAST CONSERVING SURGERY: A RETROSPECTIVE COHORT STUDY

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Background: The majority of women with invasive breast cancer are now treated by breast conserving surgery (BCS). 1 in 5 subsequently undergo re-excision to obtain clear margins. Accurate estimation of tumour size pre-operatively may help to reduce re-excision risk. The aim of this study was to investigate the relationship between radiological and histological measurements of tumour size and to investigate the effect of radiological underestimation on re-excision risk.
Methods: A retrospective analysis was performed of women undergoing BCS from April 2015 until March 2016 at a single centre. Tumour size according to ultrasound scan (USS), mammogram and magnetic resonance imaging (MRI) was compared to histological examination. Statistical significance was considered as p<0.01.
Results: 414 patients undergoing BCS in the study period were included, with 99 (23.9%) requiring at least one re-excision. Using the largest dimension obtained by any imaging modality, imaging underestimated tumour size by a median of 2.5 mm (95% CI 1.5-3.8, p<0.001). The underestimation was 8 mm (95% CI 5.0-11.5, p<0.001) greater in the re-excision group than the single excision group. In the re-excision group, tumour size was underestimated by 9 mm (95% CI 5.0-13.0, p<0.001) more than the single excision group on USS, and by 8 mm (95% CI 5.0-11.5, p<0.001) more on mammography. There was no significant difference in MRI underestimation (5 mm (95% CI -19.0-15.5, p=0.487)).
Conclusion: Preoperative imaging underestimates tumour size which may contribute to increased risk of re-excision. The potential for tumour size underestimation on imaging should be considered when attempting BCS.

P094
CHEST WALL PERFORATOR FLAPS FOR PARTIAL BREAST RECONSTRUCTION IN BREAST CANCER

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Background: About 60% of patients with breast cancer in the United Kingdom are treated with Breast Conservation Surgery (BCS). Women undergoing BCS with large resections (>20% of breast volume) warrant the use of oncoplastic techniques to restore breast shape and symmetry. Chest wall perforator flaps have evolved an option for partial breast reconstruction. We report outcomes of chest wall perforator flaps from a single centre.
Methods: All women who underwent BCS and reconstruction with chest wall perforator flaps for breast cancer in 2017 were included. Patient demographics, treatment details, specimen characteristics, perioperative outcomes and re-excision rates were evaluated.
Results: Nineteen patients were operated in the given period. Mean age of the cohort was 60.5 years, and mean BMI was 28.5 kg/m^2. Seventeen

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patients had a lateral intercostal artery perforator flap and two patients had an anterior intercostal artery perforator flap for reconstruction. The mean specimen volume excised was 150.4 cc (43-412 cc) with a mean weight of 92.5 grams (29-231 grams). Chest wall perforators could be localised in all patients pre-operatively with a hand-held Doppler. One patient had an axillary hematoma and one patient had a partial flap necrosis. Three patients required re-excision of margins. A mastectomy was potentially avoided in two-thirds of the patients.

Conclusion: Chest wall perforator flaps are a versatile option for partial breast reconstructions suitable for most tumour locations in the outer or lower aspect of the breast with relatively larger volume excisions. These can be easily performed with some training and appropriate patient selection.

P095

DOES DESIGN OF GUIDE-WIRE INFLUENCE RE-EXCISION RATE IN WIRE-GUIDED BREAST CONSERVATION SURGERY?

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Introduction: Pre-operative guide-wire insertion is a gold-standard localisation method for breast conservation surgery (wBCS) in impalpable breast cancer; however, guidewire dislodgement can compromise the surgical outcome. Several types of guide-wires are on the market with variable flexibility and hook-grips. We compared surgical outcomes following the use of two contrasting wires.

Methods: 52 wBCSs performed by a single surgeon in a Teaching Hospital between April 2016 and September 2017 were sub-divided into two groups: wBCS using the Kopans wire (fine wire with single-hook) and the X-Reidy wire (thicker wire with 4-hooks). Wires were inserted by the same group of experienced breast radiologists/radiographers. Chi Squared test (SPSS™) compared re-operation rates (margin policy=1mm for both invasive and DCIS) between the two groups.

Results: Re-operation rate was 21.8% higher (p=0.05) with Kopans wire. DCIS was admixed in 13 of Kopans and 18 of X-Reidy specimens.

Table 1

	n	Mean Age (years)	Re-operation, n (%)	Margin< 1mm
Kopans	24	57.95	7 (29.2)	DCIS-3, ILC-1, NST-2;No tumour-1 (case prompting practice-change to X-Reidy)
X-Reidy	27	58.04	2 (7.4)	DCIS-2

Conclusions: Though limited by small numbers, our data highlights possible link between wire-type and re-excision rates with assumed equivalence of ease of wire-insertion due to breast density (mean age being equal). Re-excision rates may not simply be dependent on surgical technique or margin policy but on a number of peri-operative processes including localisation methods. Our data supports the use of wires designed to reduce migration such as the X-Reidy to reduce re-excision rates.

P096

QUALITATIVE STUDY OF EXPERIENCE OF WOMEN UNDERGOING DIEP RECONSTRUCTION BEFORE OR AFTER POST MASTECTOMY RADIOTHERAPY

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Introduction: Evidence about the optimal sequence of post-mastectomy radiotherapy (PMRT) and DIEP reconstruction is lacking. Our aim was to explore the patient journey of DIEP reconstruction according to timing of radiotherapy.

Methods: Semi-structured interviews with a purposive sample of patients who had undergone immediate DIEP then adjuvant PMRT and patients who underwent delayed DIEP after PMRT were undertaken. Interviews were analysed using grounded theory.

Results: Twenty women were interviewed. 10 had undergone immediate DIEP reconstruction with adjuvant PMRT. 10 had undergone a delayed DIEP reconstruction after a simple mastectomy (5 patients) or mastectomy with temporising implant (5 patients) and PMRT.

Both groups of patients expressed satisfaction with their treatment sequence decision. Patients undergoing immediate DIEP expressed relief at waking up with a breast reconstruction made from their own tissue, though did appreciate that radiotherapy may have compromised the aesthetic outcome. These patients expressed satisfaction at having had both the oncological and definitive reconstructive surgery simultaneously. Women who underwent delayed DIEP reported having a mastectomy without reconstruction was distressing and had reduced their self-confidence. Two of five women who had a temporising implant found it uncomfortable and aesthetically poor. All women who underwent delayed reconstruction were very happy with the final appearance and felt the operation had restored their femininity.

Both groups acknowledged the importance of communication and information provision by their surgeon.

Conclusion: Neither group expressed decision-regret regarding their reconstruction choice. With careful communication and management of patient expectations it is possible for patients to be satisfied with both pathways.

P097

WIRE VERSUS RADIOACTIVE SEED IN THE LOCALISATION OF NON-PALPABLE BREAST LESIONS: A SYSTEMATIC REVIEW

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Introduction: Record numbers of women are undergoing national breast screening, and consequently a higher proportion of detected malignancies are non-palpable at presentation. In breast conserving surgery, wire localisation (WL) remains standard practice. However, more recently there has been a move towards the use of radioactive seed localisation (RSL). Currently there is no clear evidence to confirm whether RSL leads to service improvement, compared with standard practice (WL). This systematic review aims to compare the accuracy of excision using WL versus RSL.

Methods: A systematic search was performed using MEDLINE followed by title and abstract review by two authors. Study data was then analysed with respect to re-excision rates, specimen volumes and specimen weights.

Results: 22 studies were included in the review, with a total of 2530 patients in the WL arm and 4048 in the RSL arm. 449 (17.75%) WL arm patients and 559 (13.81%) RSL arm patients required a re-excision for positive margins ($p < 0.0001$ [Chi Square]). Overall the use of wire localisation was associated with a re-excision rate of 17.75% versus 13.81% in seeds. There was no statistically significant difference in specimen volume ($p = 0.820$) or in specimen weight ($p= 0.916$) [two tailed student t test].

Conclusions: The rate of re-excision for positive margins is lower when using RSL compared with WL (with high statistical significance); this is achieved without increase in specimen volume or weight. These results suggest that the replacement of WL with RSL may lead to a significant service improvement.

P098

ROUTINE FOUR QUADRANT CAVITY SHAVINGS AT THE TIME OF WIDE LOCAL EXCISION FOR BREAST CANCER MAY REDUCE POSITIVE MARGIN RATES

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Introduction: In Glasgow, four quadrant cavity shavings (CS) are routinely used when carrying out wide local excision (WLE) for breast cancer, with the rationale that this may reduce the incidence of involved tumour margins requiring a second operation. However, there is no recent evidence for this practice. We aimed to evaluate the utility of routine CS in our practice.
Methods: Patients who underwent WLE with routine 4 quadrant CS in 2016-2017 in two breast units in the same city were identified from MDT sheets. Pathology data, including tumour margin involvement and presence of tumour in or at the outer margin of each CS were collected from pathology reports. A positive margin was defined as tumour cells <1mm from it. Data was analysed to determine how frequently a CS was negative when the tumour margin was positive, and vice versa.
Results: 487 patients were included in the analysis. There were 1945 fully assessable CS. In the case of 78/1945 (4.0%) shavings, from 64 patients, the relevant tumour margin was positive but the corresponding CS margin was negative. 64/487 (13.1%) patients in our cohort avoided a further operation which would otherwise have been indicated. 55/1945 (2.8%) CS outer margins, from 43 patients, were positive when the corresponding tumour margin was negative. 43/487 (8.8%) patients required further excision for tumour which would otherwise have been missed.
Conclusions: There is a subgroup of patients for whom routine CS prevent a second operation. Further work is required before this practice can be generally recommended.

P099
INITIAL DATA FROM A SCOTTISH NATIONAL AUDIT OF CURRENT USE OF THERAPEUTIC MAMMOPLASTY

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Introduction: Therapeutic mammoplasty (TM) is an important option for breast cancer patients, however evidence for the practice is limited. We describe current practices regarding therapeutic mammoplasty in Scotland compared to other techniques, and assess for delay to adjuvant treatment in these patients.
Methods: Patients who underwent TM, wide local excision (WLE), mastectomy, or mastectomy with immediate reconstruction (MIR) as their definitive surgery for breast cancer in Scotland between 01/01/2014 and 31/12/2015 were identified from prospectively maintained databases within the Managed Clinical Networks of Scotland. Patient and tumour characteristics were compared between the four groups using Chi square tests.
Results: 8075 patients were included in the study, of which 217 had TM as their definitive procedure. 217/5458 (4.0%) breast conserving operations were TMs, whereas the overall rate of oncoplastic surgery was 11.5%. Patients who underwent TM were younger than patients who had WLE or mastectomy but slightly older than MIR patients (median: TM 55 years (29-81), WLE 62yrs (23-97), mastectomy 70yrs (25-96), MIR 50yrs (24-78), $p<0.0001$). TM patients had larger tumours than those who had WLE, but smaller than both mastectomy groups (median whole tumour size: TM 25mm (1-20), WLE 17mm (0-123), mastectomy 33mm (0-190), MIR 35mm (1-246), $p<0.0001$). No delay to start of adjuvant chemotherapy was observed (median: TM 42 days (26-161), WLE 40d (11-407), $p=0.528$).
Conclusions: Our data shows that in current Scottish practice, as might be expected, TM is carried out for younger patients with larger tumours than those who have simple WLE. No delay to chemotherapy was demonstrated.

P100
MASTALGIA IS A STRONG NEGATIVE PREDICTOR OF BREAST CANCER IN WOMEN OVER 50 REFERRED URGENTLY TO A ONE-STOP BREAST CLINIC

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Introduction: Mastalgia is a common symptom in patients referred for one-stop breast assessment, though most breast cancers do not cause pain. We aimed to evaluate whether breast pain, with or without other symptoms, affected the likelihood of breast cancer/DCIS diagnosis.
Method: Referral letters reviewed for all female patients referred 'Urgent Suspicion of Cancer' (Scottish '2-week wait') between 1st January & 30th June 2017.
Result: 904 referrals: 23 excluded (6 DNAs, 17 incomplete) study population n= 881.
Median age 47 years (15-92): 530 under 50 (60%). 59 breast cancers/ DCIS (7%), median age 63 (30-90).
326 referrals described pain (37%), with no age difference between 'pain' and 'non-pain' groups (Mann Whitney P=0.99).
Regardless of other symptoms, women with pain were significantly less likely to be diagnosed with breast cancer (12 (4%) vs 47 (8%); Fisher's exact P=0.005).
Pain was a stronger negative predictor of breast cancer when associated with a lump than non-lump symptoms: risk of cancer for a painful lump was 0.02 vs 0.12 for a painless lump (Fisher's exact P<0.0001).
Analysed by age, negative association between pain and breast cancer held for age groups over 50 (P=0.001), but not for those under 50 (P=0.78), though analysis was limited by the small number of cancers in this group (13/530; 2%).
Conclusion: Pain was a negative predictor of breast cancer, independent of other symptoms, in patients over 50. This should be reassuring for patients in this group awaiting assessment, and may be of use in risk stratification when allocating appointments.

P101
BREAST RECONSTRUCTION SURGERY IN AUSTRALIA; A NATIONAL PRACTICE QUESTIONNAIRE

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Introduction: Australia has a similar rate of breast cancer compared to the UK, however historically the published rate of post-mastectomy immediate reconstruction is lower. Reasons may include; vast geography leading to poor provision or uptake in regional areas, cost for the women treated privately or breast reconstruction surgical expertise. To investigate this, Australian breast surgeons, location and type of their practice, were surveyed to assess techniques and numbers of reconstructions performed.
Methods: An online survey was sent to all consultant members of BreastSurgANZ (the Australian and New Zealand breast surgical society). Summary data was calculated and variability between different areas and types of hospital assessed.
Results: Of 106 responders, 40% performed breast reconstruction. Eighty-six percent performed immediate 2-stage implant reconstruction and 69% performed immediate 1-stage. Thirty-eight percent performed autologous reconstructions. Eighty-six percent used an ADM or mesh in their reconstructions, with 51% using a synthetic mesh. There was significant variation with regards to drain duration and infection control measures. There was marked geographical variation.
Conclusions: A greater number of surgeons perform implant based breast reconstructions with ADMs or mesh than autologous. Most perform immediate breast reconstruction. Geographical variation plays a large part in patient access to reconstruction in Australia.

P102
THE IMMUNOHISTOCHEMICAL STUDY OF ANDROGENIC RECEPTORS AND ENZYMATIC AROMATASE (P 450 AROM) IN PATIENTS WITH BASAL LIKE BREAST CANCER AND TRIPLE NEGATIVE EXPRESSION OF IMMUNORECEPTORS (TNBC). LABORATORY INVESTIGATION AND CLINICAL THERAPEUTIC CORRELATION

Aris Giannos [1], Spyridon Marinopoulos [1], Flora Zagouri [2], Erion Kalogeris [1], Eleni Iliadi [1], Ioannis Rellias [1], Constantine Dimitrakakis [1]. [1]*1st Ob/Gyn Department, Athens University Medical School, Alexandra Hospital, Athens, Greece*; [2]*Department of Clinical Therapeutics, Alexandra Hospital, University of Athens School of Medicine, Athens, Greece*;

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Introduction: This study aims to evaluate the possible prognostic role of the immunohistochemical expression of the androgen receptors in triple negative breast cancer.
Patients and methods: The study involved 133 patients with triple negative breast cancer. Patients were examined for correlations between the expression of androgen receptors (quantified as Allred score), the clinicopathological parameters (stage, histological subtype, tumor size, lymphatic infiltration, age at diagnosis, expression of ki67 and p53) and overall survival.
Results: Ninety cases of basal type of TNBC were investigated for the expression of androgen receptors and specific enzyme of aromatase P450 arom. In 1 single patient out of 90, a positive expression of the aromatase P450 was found. In 45 patients (50%) positive expression of androgen receptors was observed. Twenty two patients (24.4%) presented intensive expression. In 28 patients (31.1%) the disease resulted in death or relapse, with only 4 patients having pronounced expression of androgen receptors.
Conclusions: The study demonstrated that the expression of androgen receptors was not correlated with stage, histological subtype, tumor size, lymph node infiltration, age at diagnosis, expression of ki67 and p53. The expression of androgen receptors did not correlate with overall survival in univariable or multivariable Cox regression (hazard ratio =0.66, 95% confidence interval 0.26-1.70, P =0.393). Consequently the expression of androgenic receptors does not appear to have prognostic significance in TNBC.

P103
ADDRESSING MODIFIABLE RISK FACTORS IN SYMPTOMATIC BREAST CLINICS: THE ABREAST OF HEALTH STUDY ALCOHOL RISK PROFILES

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Introduction: Breast clinic attendances represent opportunities, ("teachable moments"), to provide breast cancer prevention advice. Alcohol and obesity are the two largest modifiable risk factors for breast cancer in the UK. The Abreast of Health study (REC17/NW/ 0241) explored alcohol use and health information needs of women attending symptomatic breast clinics in Southampton.
Methods: Women attending symptomatic breast clinics in Southampton in June-December 2017 were recruited. Participants completed a self-administered questionnaire on tablet computers. Data collected included alcohol habits, information technology usage and health literacy (HLS-EU-Q16). Descriptive statistical analysis was undertaken.
Results: Six hundred and ninety-eight complete questionnaires were analysed. Age distribution: ≤34 (23%), 35-44 (19%), 45-54 (27%), 55-64 (13%) and ≥65 (18%) years.
Eighty-four percent reported some alcohol consumption. Forty percent of these drank at increased risk levels (AUDIT-C score ≥5). Of those reporting to 'never' drink alcohol, further questioning revealed 38% drank very occasionally, 22% had stopped drinking and 40% were lifetime non-drinkers. Ninety-four percent had internet access; 69% sought health information online within the last 3 months. The HLS-EU-Q16 score indicated sufficient health literacy in 79%; 17% scored levels problematic (4% inadequate) to promote/ maintain good health. Health literacy did not vary by alcohol consumption (ANOVA, $p = 0.31$).
Conclusions: Women attending symptomatic breast clinics in Southampton have similar levels of alcohol use to the general female population in South-East England (72% drinking at least monthly). Study data are informing a new digital brief intervention for alcohol and other modifiable risk factors for use in breast clinics.

P104
PUBLIC AND PATIENT PERSPECTIVES AND PRIORITIES FOR BREAST CANCER RESEARCH (4PS)

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Introduction: Breast Cancer Campaign (BCC) conducted a Gap Analysis in 2013 to determine areas of research need in breast cancer. This was performed by specialist breast cancer researchers and clinicians. Ten major knowledge gaps were identified. However, the Gap Analysis did not express the research priorities of patients or the public. The North West Trainees Research Collaborative designed a Qualitative study to determine the Public and Patients priorities for future research.
Methods: REC approval was granted for this study (16/LO/0162) and funding given by the ABS. Six listening events were undertaken, between February and July 2017. Events were chaired by a Research Psychologist, recorded and transcribed. Qualitative thematic analysis of themes was performed manually and using NVivo qualitative data analysis software. The 4Ps research priorities were compared to those of the BCC-GA.
Results: BCC-GA identified 12 themes for research. Patient and public priorities for future research included these themes but also included new topics. Novel research themes that were identified include research to audit the side effects of current treatments and to identify ways to reduce the side effects, reducing inequality in breast care, improving NHS service efficiency and using Information Technology to improve breast screening and cancer care.
Conclusions: Patient and public priorities differ from the professionals priorities. Patients are in an advantaged position to guide healthcare research and their voice is vital in designing new research projects. Highlighting these novel priorities will help enable the design of relevant, future projects in partnership with patients and researchers.

P105
DOES PRE-OPERATIVE IMAGING PREDICT THE NEED FOR OSNA ANALYSIS OF SENTINEL LYMPH NODE BIOPSY?

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Introduction: Identification of pre-operative factors that can predict patients with low risk of metastatic disease within the sentinel lymph node (SLN) would allow the safe omission of One Step Nucleic Acid (OSNA) analysis of the SLN in breast cancer patients. This group of patients would have standard histological SLN analysis rather than immediate OSNA analysis reducing surgical operating time, negating the costly requirement for OSNA reagents and improve theatre utilisation.
Methods: We reviewed our prospectively collected database of breast screening patients who had undergone a SLN biopsy and OSNA analysis between September 2016 and September 2017 inclusive.
Results: The study included 85 patients. One patient had bilateral breast cancer therefore 86 cancers were included for the final analysis of which 13 were multifocal. Patients had a median age of 63 years (range 47-83). 67 patients had negative OSNA analysis of the SLN with 19 patients having positive (macro-metastasis) SLN. There were 66 patients with T1 and 20 patients T2/T3 imaging size. Patients with T2/T3 mammographic imaging were significantly more likely to have positive SLN n=8 ($p<0.05$). In patients where imaging was reported as T1 had a lower risk of positive SLNB on OSNA analysis (n=11). ER, PGR and HER2 status and age had no significant association with SLNB metastasis.
Conclusion: Our data suggests that patients where pre-operative imaging demonstrates <T2 disease have a low risk of axillary metastasis. Could OSNA analysis of the SLN be safely omitted in favour of standard histological methods in this group of patients?

P106
A DIGITAL BREAST SERVICE: TURNING MYTH TO REALITY

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Introduction: Clinicians have often found the introduction of digital technology to be more of a hindrance than help in patient care. Organisations have focused on deriving 'Business intelligence (BI)' whilst 'Clinical intelligence' such as recurrence rates etc have been ignored.

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Methods: We set out to utilise the Lorenzo Electronic Patient Record (EPR) to derive this and other benefits.
Results: We configured 'Clinical charts' - a way to filter and display on one screen under different tabs the entire patient journey through the breast service - from referral to breast clinic letters, MDT outcomes, operation notes, and clinical photographs.
From this chart an operation can be booked and the secretary will get instant electronic notification.
In the one stop clinic we developed an electronic way to track when the patients have had their imaging.
Developed 'Clinical Data Capture' forms to replace paper notes in the clinic. Data can be recorded in a structured manner at every step i.e. new patient clinic, pre-operative results , operation note, post-operative results and follow up clinic - data on all aspects including post-operative complications is available at the click of a button. Each form pre populates others downstream
Using BI software we generated audit data from the new patient clinic forms.
Patient satisfaction with the consultation after introduction of the electronic new patient form was the same or better when compared with the paper consultation.
2/3 of clinicians felt it had not slowed them down.
Conclusion: A properly implemented digitisation process can have huge clinic benefits.

P107
OUTCOMES IN SURGERY: COMPLICATION RATES FOLLOWING BILATERAL PROPHYLACTIC MASTECTOMY AND BREAST RECONSTRUCTION

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This is a 5 year (2012–2017), single-centre (Canniesburn Plastic Surgery Unit, Glasgow), retrospective study of 90 days post-op complications following bilateral prophylactic mastectomy and reconstruction. There were 170 female patients, with a mean age of 43.9 years old. 82.9% were BRCA-gene positive, and 17.1% were BRCA negative. Among the 170 patients, 55% had no cancer, 42% had unilateral cancer and 3% had bilateral cancers. 64% received implant reconstruction whereas 36% chose autologous tissue reconstruction. The mean age for autologous tissue reconstruction receivers were 46.5 years old whereas those receiving implants were 42.4 years old. Percentage of obese (BMI>30) individuals were 47.5 in those receiving autologous tissue reconstruction whereas 19.2% in the group with implants. Among the recruited patients, 6.7% of patients in the autologous tissue group and 15.5% among the group with implants were smokers. There was only one diabetic patient receiving an implant. We compared the complication rate between autologous and implant reconstruction. Overall, RRM had a 0% mortality rate (grade-4 complication). 56.5% did not have any complication, and it was approximately 55% for both groups. Autologous tissue had 1.7% more grade-1 (mild) complications than implants; implants had 3.8% more grade-2 (moderate and needing medical/surgical treatment) than autologous tissue; More significantly, 9.8% of reconstruction had a grade-3 complication (loss of reconstruction). Amongst those, it was apparent that implants had a 7.7% increased result of losing reconstruction. Overall, autologous has 2% less complications than implants, however implants had more numbers of severe (grade-3) complications.

P108
FNAC POSITIVITY- A PREDICTOR OF AXILLARY DISEASE BURDEN IN NEOADJUVANT CHEMOTHERAPY PATIENTS

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Background: Fine needle aspiration cytology (FNAC) is performed on radiologically positive axillary nodes as part of preoperative staging. We look at whether a positive FNAC can predict final number of diseased nodes on axillary clearance (ANC) in patients undergoing neoadjuvant chemotherapy (NAC) compared with those who do not have NAC.
Methods: Primary breast cancer patients undergoing FNAC between Oct 2009 and December 2015 were identified from electronic records. Patient, tumour characteristics, FNAC positivity, number of harvested and diseased nodes at ANC were recorded. We compared results from three cohorts: Group A - FNAC positive, receiving NAC; Group B - FNAC positive, no NAC; Group C - FNAC negative, SLNB positive.
Results: Axillary FNAC was performed in 971 patients. FNAC was positive in 55.6% and 29% of these patients had NAC. Table 1 shows tumour characteristics. Mean number of diseased nodes in Group A, B and C were 3, 2 and 6 nodes respectively ($p<0.001$). In Group A, 22.5% of patients had 4≥ diseased nodes compared with 50.6% in group B and 12.1% group C.
Conclusion: NAC reduces tumour burden in the axilla to levels similar to patients who have negative FNAC preoperatively. Over 50% of patients with positive FNAC who do not have NAC have 4≥ diseased nodes compared with 22.5% in NAC patients. This information can guide preoperative discussions on the likely disease burden, need for adjuvant therapies such as radiotherapy and aid surgical decisions regarding type and timing of reconstructions to reduce the risk of complications.

Table 1

	GroupA	GroupB	GroupC
Tumour Type	IDC – 91.1% ILC – 4.5% DCIS – 3.9% Other – 0.6%	IDC – 84.1% ILC – 12.0% DCIS – 1.6% Mixed – 1.8% Other – <1%	IDC – 85.6% ILC – 8.8% DCIS – 3.2% Mixed – 2.4%

P109
INTRAOPERATIVE FROZEN SECTION OF SENTINEL LYMPH NODE BIOPSY IN UPFRONT BREAST CONSERVATION SURGERY: TIME TO "LET IT GO!!!"

Ruqayya Naheed Khan, Mariam Baig, Sameen Khan, Amina Khan, Asad Parveiz, Samreen Umar, Zulqarnain Chaudhary. *SKMCH, Lahore, Pakistan*;

Introduction: Sentinel lymph node biopsy (SLNBx) is an established component of breast cancer surgery. Frozen section (FS) is routinely done at the time of surgery to confirm axillary metastasis and avoid unnecessary axillary lymph node dissection (ALND) in case of a negative axilla. Cost of one frozen section is 61 USD and it takes an average of 30 minutes extra which further costs 70 USD in the form of manpower, equipment and longer duration of anesthesia.
Methods: A retrospective review was conducted at Shaukat Khanam Memorial Cancer Hospital Pakistan from Jan 2017 to Dec 2017 including patients treated for early stage breast cancer with clinically negative axilla. An institutional database was utilized for this purpose. SLNBx with FS was done in all patients and ALND was performed in positive SLNBx.
Results: A total of 240 patients were included in the study. All patients had an upfront breast conservation surgery (BCT) followed by adjuvant treatment. SLNBx biopsy was found to be negative in 209 (87%) patients while ALND was performed in only 5 (2%) patients. ALND was avoided in 26 (11%) patients as per Z0011 Trial. The total cost of FS in patients where no ALND was required is 14,335 USD and the cost for extra time was 16,450 USD.
Conclusion: Frozen section can be safely omitted in patients who get adjuvant treatment to save considerable time and cost. ALND can be performed as a second operation if required post chemotherapy in such small percentage of patients.

P110
CLINICAL RELEVANCE OF AXILLARY LYMPH NODE DISSECTION IN CYTOLOGY PROVEN LYMPH NODE POSITIVE AXILLA AFTER NEO ADJUVANT SYSTEMIC THERAPY

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Introduction: Neo adjuvant chemotherapy has become the standard of care in locally advance breast cancer and lymph node positive axilla. It

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reduces the size of breast tumor and hence more breast conservation (BCT) procedures. This favorable outcome raises the controversy in managing axilla of node positive patients who receive neo adjuvant therapy (NAC) to avoid unnecessary axillary lymph node dissection (ALND).
Methods: A retrospective review was conducted at Shaukat Khanam Memorial Cancer Hospital Pakistan from Jan 2017 to Dec 2017 including patients who were treated for invasive breast cancer and had cytology proven positive lymph nodes. Neo adjuvant chemotherapy was offered to all followed by BCT and ALND. Total of 210 patients were included in the study.
Results: All the patients were female. Average age was 44 years. After NAC complete nodal response was seen in 95 (45%) patients. 34 (16%) patients had only a single lymph node positive while the remaining 39% of patients had partial response to NAC with two or more positive LNs.
Conclusion: Keeping in mind the complications related to ALND, above results clearly show that ALND could have been avoided in 61% of patients. We propose placing a clip in the single suspicious lymph node in axilla and excising it along standard sentinel lymph node biopsy dual tracer and frozen section post chemotherapy.

P112
USING THE THERAPEUTIC MAMMOPLASTY TO EXTEND THE ROLE OF BREAST SPARING SURGERY IN WOMEN WITH LARGER OR PTOTIC BREASTS: EXPERIENCE FROM A DISTRICT GENERAL HOSPITAL

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Introduction and Aims: The equivalence of breast-conserving surgery followed by post-operative radiotherapy against mastectomy is well-established in patients with early breast cancer. The results of surgery in women with large breasts can be poor, with radiation-induced fibrosis, chronic pain and poor cosmesis contributing to long-term psychological and physical morbidity. Therapeutic mammoplasty offers an alternative management strategy to enhance the role of breast-conserving surgery and provide better aesthetic outcomes. We carried out this study with aims to find out re-excision rate as well as rate of complications following therapeutic mammoplasty in our unit.
Methods: A prospectively recorded data was analysed of all patients undergoing therapeutic mammoplasty for breast cancer between January 2013 and April 2016. Histology outcomes were assessed as well as need of further surgical intervention in cases with involved margins.
Results: 95 patients underwent therapeutic mammoplasty by a single surgeon. The median age of women was 57 years (range: 30-80). Two patients had bilateral cancers. The median size of tumour was 22 mm (range: 8-67mm). Level I and II mammoplasty techniques were used. 14% of patients required further surgery to clear the margins. There was no residual disease on final histology in one third among these patients. 4% of patients required/opted for mastectomy as their final operation to clear the margins. Only three patients developed complications including haematoma, infection and minor wound dehiscence.
Conclusions: In our series, therapeutic mammoplasty had re-excision rate similar to other institutions and complication rate was very low.

P113
OVER 70S BREAST CANCER MANAGEMENT: A SINGLE INSTITUTE EXPERIENCE

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Introduction: With increasing life expectancy, awareness and improved referral system more women over the age of 70 (70+) are diagnosed with breast cancer. NICE guidelines recommended standard treatment of breast cancer irrespective of age and decision rather based on co-morbidities and frailty. To review our compliance with NICE guidelines we audited management of breast cancer of 70+ women over a period of five years.
Methods: Retrospective case note analysis of 833 70+ women with breast cancer diagnosed from April 2010 to March 2015. Breast MDT recommendations, reason for choice of treatment, co-morbidities and performance status recorded.
Results: Out of 2729 breast cancer diagnosis 30% (833) were 70+. The median age was 78. Surgery was the treatment of choice in all five years and is represented by 60% in year one, four and five; 55% in year two; 45% in year three. Primary endocrine treatment was the next treatment of choice among 28% in year one, 23% in year two, 30% in year three, 20% in year four, and 25% in year five. Offer and acceptance adjuvant treatments have increased in year wise analysis.
Conclusions: We have noticed a shift towards surgery from primary endocrine therapy in year wise analysis. There has been an increase of number of 70+ patients diagnosed with breast cancer. Inclusion of performance status had improved offer of adjuvant treatment in the last year of the study. More individualised and evidence based management recommended to offer appropriate treatment in this age group.

P114
CLINICAL OUTCOMES AND PATIENT REPORTED OUTCOMES OF THE BREAST RECONSTRUCTION SERVICE AT THE QUEEN ELIZABETH HOSPITAL BREAST UNIT KINGS LYNN (QEHKL)

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Introduction: In 2013 a new breast reconstruction (BR) service was set up introducing acellular dermal matrices, lipofilling and a new set of policies. Three years on, we audited clinical outcomes and patient reported outcomes (PRO) against accepted standards: Oncoplastic Breast Reconstruction Guidelines by ABS & BAPRAS & National Mastectomy and Breast Reconstruction Audit 2011.
Methods: Patients from 2013 – 2016 were included. Clinical data was collected prospectively. PRO data was collected retrospectively via telephone questionnaire. Primary clinical outcomes were implant loss, unplanned return to theatre (RTT) and unplanned readmission. PRO were categorized into pre-operative care, pain control, physical outcomes, wellbeing, physical symptoms and patient expectations.
Results: 42 patients and 57 breasts were reconstructed. Implant loss rate was 1.75%, Unplanned RTT was 1.75%, unplanned readmission was 2.38%, all below the standard of <5%.
For PRO, 64% (27/42) patients responded. Overall 97% (36/37) of the categories' set standards were met. 100% of patients met the standards set for pre-operative care, physical outcomes, wellbeing, physical symptoms and patient expectations. In the pain control category 26% (7/27) of patients described severe pain in first 24 hours, this did not meet the standard of 16 – 20%. Overall, 93% described results as excellent or very good, exceeding standards. 96% (26/27) of patients agreed or strongly agreed that the outcome met their expectations.
Conclusions: In the first three years the BR service is producing clinical outcomes well within standards, with excellent patient satisfaction. Further work aims to improve postoperative analgesia.

P115
SETTING-UP AND KEEPING UP AN ONCOPLASTIC MDT MEETING– LEARNING FROM EXPERIENCE ACROSS TWO NATIONAL CENTRES

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Introduction: The Oncoplastic Breast Reconstruction (OBR) Guidelines (2012) were developed in response to the increasing number of oncoplastic surgical techniques; addressing the findings of the National Mastectomy and Breast Reconstruction Audit (NMBRA). They suggest discussion of all oncoplastic breast reconstruction patients.
Methods: An MDT was set-up sequentially across two centres nationally and modified from experience. A Doodle poll established a convenient time for maximum attendance. Core members including secretarial support were recruited. Half the meeting is dedicated to patient presentation and half to clinical governance for journal club, conference feedback and service improvement. There is a 3-monthly mortality & morbidity meeting.

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Objectives included:

- Evaluation of oncological and reconstructive factors leading to a reconstructive decision
- Developing an agreed and documented transparent care plan
- Stimulating debate, sharing of expertise and professional development
- To collate data for audit purposes, service evaluation and improvement

Results: At the second centre (UHB), 97% of patients undergoing total or complex-partial breast reconstruction were discussed and one mortality and morbidity meeting has been conducted. Local guidelines on the management of Tamoxifen in the peri-operative period, improvement of implant associated infection rates and a patient information leaflet for IA-ALCL has been created and charitable funds for post-reconstruction bras have been secured.
Conclusion: Setting-up and keeping-up an oncoplastic team requires good communication and enthusiasm. Secretarial and trainee support is essential for the service to remain sustainable and effective. The service has made significant progress towards meeting the OBR guidelines. Experience and audit improves the service provided by the MDT meeting.

P116
VARIATION IN SURGICAL PRACTICE TO MINIMISE POST-OPERATIVE COMPLICATIONS DURING IMPLANT BASED BREAST SURGERY

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Introduction: Post-operative infection in patients undergoing breast implant surgery may lead to explantation. Whilst current ABS standards are set at <5% at 3 months, the National Mastectomy and Breast Reconstruction audit showed that 15-18% of women undergoing immediate reconstruction experience serious complications. Aseptic technique is paramount in all stages of the operation and Allergan's™ 14-point plan was developed by Deva and colleagues to minimise complications. Moreover, there is increasing concern that the biofilm is involved in the pathogenesis of breast implant associated anaplastic large cell lymphoma (BIA-ALCL).
Methods: A 17 question online survey was disseminated to 40 breast surgeons in the Kent, Surrey and Sussex Deanery and responses analysed in relation to the 14-point plan.
Results: 23/40 (58%) surgeons responded to the questionnaire. Antibiotic prophylaxis, minimising skin-implant contamination, changing gloves and layered closure are practiced by all surgeons. 9/23 (31%) use nipple shields and 4/23(17%) do not perform pocket irrigation. There is variable practice with the use of drains; 13/23 (56%) avoid drains and (7/23) 30% avoid sometimes, and (3/23) 13% do not avoid drains. Most surgeons 21/23 (91%) supervise trainees during implant-based procedures but only 11/23 (48%) oversee scrubbing and gowning.
Conclusions: There is variable practice with reconstructive and augmentation surgery. More data on a national level would allow better insight into understanding and improving practice. Introducing a robust plan alongside the WHO safety checklist and ensuring supervision of trainees and theatre staff may further minimise complications and stem the rising incidence of BIA-ALCL, though rare.

P117
WORLDWIDE IMPACT OF THE AMERICAN COLLEGE OF SURGEONS ONCOLOGY GROUP Z0011 TRIAL ON RATES OF AXILLARY LYMPH NODE DISSECTION: A SYSTEMATIC REVIEW

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Introduction: Axillary lymph node dissection (ALND) is a fundamental procedure in breast cancer management. In 2011, the ACOSOG Z0011 trial demonstrated a subset of sentinel node positive patients with low volume disease derive no oncological benefit from ALND. Our hypothesis is that adoption of Z0011 findings is manifest as a significant reduction in ALND procedures. A systematic review aimed to identify to what extent any reduction in procedures has been reported in the literature.
Methods: A systematic review was performed of Medline and EMBASE library databases for English language articles between 2011 and November 2017. A cited reference search of the Z0011 paper was performed and conference abstracts were reviewed. Literature was sought that identified the number of ALND procedures performed before and after publication of Z0011.
Results: Thirteen papers were identified from 4 countries (USA, Netherlands, Canada and Ireland), describing 4 database studies and 9 single- or multi-centre studies. All studies reported a reduction in ALND in the population studied. Eleven studies isolated patients meeting Z0011 criteria. The mean absolute reduction in ALND after publication of Z0011 in Z0011-criteria studies was 43.7% (SD=21.8%, range 14.4-73.4%). Nine studies had sufficient reporting rigour to combine Z0011-criteria patients into pre- and post-Z0011 groups. Before publication of Z0011, nearly three quarters of patients studied underwent ALND (71.2%), which decreased significantly after publication (41.7%)($p<0.0001$).
Conclusions: This review confirms a trend towards less extensive axillary surgery since the publication of Z0011, which whilst minimising morbidity, may have significant impact on surgical training opportunities.

P118
PILOT STUDY: FREE FLAP MONITORING USING A NEW TISSUE OXYGEN SATURATION (STO2) DEVICE

Melissa Berthelot, Benny Lo, Guang-Zhong Yang, Daniel Leff. *Imperial College London, London, United Kingdom*;

Introduction: Autologous free flap breast reconstruction is becoming increasingly common following mastectomy, owing to the natural appearance, cosmetic outcome and durability. The first 24 - 48hrs after surgery are crucial to determine the viability of the flap for which failure is highly morbid. Currently, assessment of flap viability primarily relies on clinical observations. Biophysical and biochemical devices were developed for continuous monitoring, but suffer reliability, accuracy and usability issues.
Method: A wearable wireless self-calibrated sensor using NIRS was developed and tested in a pilot study at Charing Cross Hospital (16/LO/1584). Placed on the flap for 7hrs after surgery, continuous monitoring and conventional clinical assessments are performed.
Results: N=10 DIEP flaps were monitored and were successfully patent with clinical observations. Results show an increase in the StO_2 percentage with an average slope coefficient of +0.43 (STD=±0.51). Applying a one sample paired t-test at 5% on the slopes, the null hypothesis of the mean of the distribution being zero is rejected (p=0.0250). This suggests the StO2 increase for successful flap is not due to chance and is the first step towards device validation.
Conclusion: A wearable wireless sensor for continuous StO_2 monitoring following flap reconstruction was developed. Outcomes demonstrate the device provides StO_2 data that is coherent with the biological response of a successful flap, and concurs with findings using tethered systems (Najefi et al, 2010). Future work will focus on acquiring more datasets, defining the device's performances and observing the consequences of its full integration within clinical settings.

P120
INCIDENTAL BREAST LESIONS DETECTED ON CT

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Introduction: Incidental breast lesions are increasingly reported on CT with subsequent referral to specialist breast clinic for dedicated breast imaging. This study aims to review the nature of the CT findings, the outcomes of the breast lesions, and to identify CT features suggestive of malignancy.
Methods: A 1 year retrospective review (August 2016 to August 2017) within the Northern Health and Social Care Trust was undertaken. A RIS search for CT reports containing the word breast was performed (1011

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reports). Any patients with a new breast abnormality reported on CT were included in the study.
Findings: 60 patients were identified with a breast abnormality identified on CT. All patients had appropriate recommendations with either referral to rapid access breast clinic (90%) or breast examination and clinical correlation (10%). 53/60 patients (88.3%) underwent assessment in breast clinic. 20/60 patients had a malignant diagnosis (33.3%). Diagnosis was unconfirmed in 7 patients (11.7%). Enhancement and irregular shape were found to be strongly predictive indicators of malignancy.
Conclusion: 20/60 patients with incidental breast lesions detected on CT had a malignant diagnosis (33.3%) upon referral for triple assessment. Our study highlights the significance of the breasts as a review area on CT for radiologists.

P121
ONE STEP NUCLEIC ACID AMPLIFICATION CYTOKERATIN 19 MRNA COPY NUMBERS AS A PREDICTOR OF AXILLARY STATUS IN BREAST CANCER: AN ASSESSMENT OF AVERAGE COPY NUMBER AND TOTAL TUMOUR LOAD

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Introduction: One step nucleic acid amplification (OSNA) is a technique for assessing intra-operative sentinel-node status using established ranges of cytokeratin 19 (CK19) copies. We wished to establish a potential new treatment threshold and to assess tumour factors predictive of further axillary node involvement ultimately to identify patients who could avoid axillary node clearance (ANC).
Methods: Retrospective analysis of CK19 counts on all patients with positive OSNA and subsequent ANC over four years was performed. Statistical analysis assessed average copy number (total count/number of sentinel nodes) and total tumour load (total count from all sentinel nodes) generating receiver operated curves (ROC) with Youden's index and new suggested thresholds. These were compared with histological data regarding non-sentinel node involvement and tumour factors using univariate and multivariate analysis.
Results: 238 patients with 447 sentinel nodes were studied. Average copy number ROC suggested a new threshold of 9450 copies/μL (sensitivity 80%, specificity 69%, false negative 7.4%) and total tumour load 44500 copies (sensitivity 71%, specificity 80%, false negative 10.1%). Using these thresholds would reduce the ANC rate by 56.9-66.5%. Univariate analysis associated grade 3 tumours, size >5cm, lymphovascular invasion and lobular tumours with higher nodal disease. Multivariate analysis identified grade 3 and lobular tumours as predictors of further node positivity using all three new thresholds.
Conclusions: Higher threshold values could save patients from unnecessary ANC. Results from OSNA are objective, reproducible and could be combined with other tumour factors to predict higher nodal involvement and those in whom clearance could be omitted.

P122
DECISION-MAKING AND MANAGEMENT OF ELDERLY PATIENTS WITH EARLY STAGE BREAST CANCER IN THE KENT, SURREY AND SUSSEX REGION: A MULTI-CENTRE AUDIT

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Introduction: Significant differences in the management of older women with breast cancer compared to younger women have been demonstrated. This audit aimed to obtain information detailing both the decision-making process and current management of older women diagnosed with early breast cancer in the Kent, Surrey and Sussex region.
Methods: A multi-centre audit across five hospital sites was performed, with local governance approval. All women aged over 70 years diagnosed with early breast cancer during 2016 were included. Results were compared to current guidelines (NICE/International Society of Geriatric Oncology) and to those reported by the National Audit of Breast Cancer in Older Patients (NABCOP).
Results: Of the 360 women meeting inclusion criteria, 70% received surgery. Older age and higher comorbidity/performance status scores were all associated with reduced likelihood of receiving surgical treatment (chi-squared test for trend $p<0.0001$). When offered a choice of treatment, younger patients tended to opt for surgery, whilst older patients opted for primary endocrine treatment. Rates of sentinel node biopsy (SNB) and breast-conserving surgery (BCS) were higher than those reported nationally across all age groups. Formal geriatric or frailty assessment prior to a treatment decision being made was not documented universally.
Conclusions: Current rates of surgery for older patients with breast cancer in the region are comparable to those reported nationally, although BCS and SNB rates are higher. Service improvement should focus on streamlined care, enhancing collaboration between surgeons, care of older people physicians and anaesthetists, personalising cancer management in the older patient.

P123
HISTOLOGICAL ANALYSIS OF RETRIEVED SILICONE BREAST IMPLANT CAPSULES AND CORRELATION WITH THE IMPLANT'S MECHANICAL PROPERTIES

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Introduction: Capsular contracture is reported to occur in up to 24.6% of primary breast reconstructions at 10 years. The thickness of the capsule has previously been shown to be related to duration of implantation and the severity of capsular contracture. The aim of this study was to analyse the retrieved implant capsules and correlate their thickness with the corresponding implants mechanical properties
Methods: Local ethical approval was obtained from UCL - Royal Free Biobank. Breast implants and their corresponding capsules were collected. Samples from the breast implant shells were analysed for maximal tensile strength (n=6) using Instron 5565 tensile tester. Retrieved capsules were histologically analysed for capsular thickness and correlated with maximal tensile strength.
Results: Nine silicone breast implants and their corresponding capsules were retrieved for analysis. Mean age of patient was 42.8 years (SD. 9.2) and duration of implant was 122.1 months (SD 59.2). Most common indication for implant removal was capsular contracture and implant rupture (66.7%). Two patients had undergone peri-operative breast radiotherapy. No significant correlation between fibrotic capsular thickness and duration of implantation was shown ($p = 0.85$, $r=0.08$). Furthermore, there was no significant correlation between fibrotic capsular thickness and ultimate tensile strength properties of the corresponding retrieved breast implant shell ($p=0.12$, $r = 0.57$).
Conclusions: The results demonstrate that fibrotic capsular contracture is not significantly related to the tensile strength of the corresponding implant suggesting it is not occurring in response to changes in the implant's mechanical properties. Further research is required to elucidate its pathogenesis.

P124
MALIGNANCY PREDICTION IN PATIENTS WITH ADH: THE QUEST FOR A PATIENT TAILORED APPROACH

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Introduction: Breast core biopsy diagnosis of ADH carries a risk of subsequent upstaging to pre invasive (DCIS) or invasive carcinoma (IBC). Excision biopsy is therefore currently recommended for ADH diagnosed on biopsy. However, the reported malignancy upgrade rate following ADH diagnosis is variable (11-46%).

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We aim to validate an algorithm scoring the risk of ADH upgrade to malignancy based on clinicopathological and radiological factors.
Methods: We conducted a retrospective review of patients diagnosed with ADH on core biopsy who underwent excision biopsy between 2007 and 2010. A risk stratification model of age $\geq$ 50 years, presence of a palpable mass, multifocality, microcalcification, and radiological size $\geq$ 15 mm was used to predict malignancy probability within ADH.[1]
Results: 77 patients with ADH were identified. Of the 76 patients who underwent excision biopsy, 34% were diagnosed with DCIS (28%) or IBC foci (6%). Using the ADH scoring algorithm, the ROC analysis area under the curve (AUC) was 0.82 (95% CI: 0.79-0.94). Patients with an ADH score $\leq$3 had a negative predictive value of 86%.
Conclusions: Within the limitations of this study, the ADH scoring system was able to identify a group of patients who are less likely to harbour malignant foci. This tool can potentially identify patients who may avoid surgery where watchful radiological follow-up may be appropriate. Larger multi-centre studies however are needed to confirm the reproducibility and reliability of this scoring system and long-term survival data.
Reference:
[1] Ko *et al. Breast Cancer Res Treat* 2008, **112**(1):189-195.

P125
ARE WE OVER-INVESTIGATING MALE BREAST PATIENTS?

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Introduction: Male patients with breast symptoms are being over-investigated. A 2017 RUH Breast Unit audit identified >90% of male breast imaging was unnecessary and 89% were having unhelpful blood tests. This over-investigation causes avoidable stress for patients and has significant attendant cost. We introduced a new protocol and re-audited against National Guidelines.
Methods: Following introduction of the new protocol, we undertook a three-month data collection (07/07/2017–07/10/2017) to compare against our original audit (01/07/2015–30/06/2016). Prospective data was collected by our business information unit and analysed for adherence to 2010 National *"Best practice diagnostic guidelines for patients presenting with breast symptoms"*.

Table 1

	Audit (n=274, 12 months)	Re-audit (n=53, 3 months)
Patients undergoing breast imaging	85%	59%
Adherence to national breast imaging guidelines	8%	23%
Patients undergoing blood test	89%	68%
Approximate annual cost of unnecessary imaging	£45,500	£20,400

Results
The majority of patients (both data collections) had gynaecomastia/ pseudogynaecomastia (~80%). Two patients were diagnosed with breast cancer; both clinically suspicious prior to imaging.
Approximately one-third of blood tests (both data collections) had abnormal results with no impact upon patients' diagnosis or management.
Conclusions: Our breast unit has improved its adherence to national guidelines for investigating male breast patients and reduced numbers of imaging/ blood tests undertaken without compromising patient safety.
However, a significant number still undergo unnecessary investigation. Our Breast Clinicians have been re-educated regarding closer adherence to national guidelines. This should further reduce unnecessary imaging/ blood tests without compromising accurate diagnosis and more appropriately utilise NHS resource.

P126
ETHNIC VARIATION IN MASTECTOMY AND RECONSTRUCTION RATES IN AN NHS INSTITUTE OVER A 3 YEAR PERIOD

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Introduction: Ethnicity associated variation in mastectomy and reconstruction rates have been documented in fee paying healthcare services across the world where confounding economic factors are in play. We report on a 3-year NHS institution study looking at mastectomy and reconstruction rates in women of different ethnicities who have a level playing field and excluded from economic burdens.
Methods: Mastectomy patients between December 2013 and February 2017 were identified from electronic records. Ethnicity, suitability for breast conserving surgery (BCS), reconstruction and contralateral mastectomy rates were recorded.
Results: Ethnic distribution of 224 patients in the study is shown in Table 1. There was no difference in suitability for reconstruction or BCS in different ethnic groups, p=0.348, p=0.97 respectively. In patients aged 60> there was no difference in reconstruction rates across ethnic groups (p=0.89). In the 41-60 age cohort, Black patients had highest reconstruction rates (100%) with Asians having lowest (25%). In the <40 age cohort, reconstruction rates equalised in all ethnicities (100%) except Asian (80%). Contralateral mastectomy rate was highest in White British/ Irish patients (12.5%), with 47% requesting this for symmetrisation.
Conclusions: Reconstruction rates were inversely proportional to age in all ethnic groups. Asian women had lowest reconstruction rates across all age cohorts whilst Black women had highest. Ethnic disparity in mastectomy and reconstruction is multifactorial. Understanding these factors will aid Trusts to address the disparities in uptake of reconstructions.

Table 1

	Asian	Black	White British/ Irish	Other White	Unknown
%Patients	13	21	51	8	7
%Reconstruction age: >60	20	33	31	20	50
41-60	25	100	83	71	60

P127
CAUSES OF DELAYED DISCHARGE FOLLOWING MASTECTOMY FOR BREAST CANCER

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Introduction: NHS Improvement advocated deliverance of major breast surgery safely as a day case or one night stay. We routinely discharge patient home a day after surgery with drains in situ after mastectomy. There is an ongoing effort to adapt day case mastectomy without drain in selected cases. This study aim to identify factors that contribute to delay discharge in our mastectomy patients.
Methods: Retrospective analysis of cancer cases treated by mastectomy with or without axillary surgery over 12 months, excluding bilateral mastectomies and reconstructions. Data collected includes age, comorbidity, hospital stay, surgery type, and cause of delayed discharge.
Results: There were 161 mastectomies +/- sentinel node biopsy/ axillary clearance. 107 patients stayed a night with 136 (84.47%) discharged within 48 hrs. 25 patients (15.53%) spent 3 or more nights. 5 cases of haematoma required drainage a day after surgery. (Table 1,2)

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Table 1
Length of hospital stay

	1 night	2 nights	3 nights	4 & more nights
Number	117	19	15	10
Percentage	72.67	11.80	9.32	6.21

Table 2
Reasons for delayed discharge (beyond a night stay):

Significant pre-existing comorbidity	12
Acute postoperative medical complication	3
Postoperative haematoma	5
No social support	12
Frailty	9
Patient refusing discharge	3

Conclusion: About 73% of patients were discharge after a night stay. Significant pre-existing medical illness, lack of social support and frailty account for greater proportion of prolonged hospital stay beyond our 'one night' target following mastectomy while acute medical or surgical complications accounts for less.

P128
B3 LESIONS OF THE BREAST; IS WATCHFUL WAITING AN OPTION?

Bashar Zeidan, Lorenzo Bernaudo, Lucy Mansfield, Sophie Helme, Constantinos Yiangou, Avi Agrawal. *Queen Alexandra Hospital, Portsmouth, United Kingdom*;

Introduction: Breast lesions of uncertain malignant potential (B3) represent a heterogeneous group of pathologies with a 10 - 30% overall risk of malignancy diagnosis after surgical excision. Malignancy risk varies depending on B3 subtypes. With such heterogeneity, ideal management of patients with B3 lesions is unclear.
We aimed to correlate B3 biopsy findings with excision biopsy histology and determine the relevance of epithelial atypia in malignancy risk stratification.
Methods: Between 2007-2010, 131 breast screening patients with B3 lesions on core needle/ vacuum assisted biopsy that subsequently underwent excisional biopsy were studied.
Positive predictive values (PPV) for malignancy were reported for the B3 in general and B3 sub groups without (B3a) and with (B3b) epithelial atypia. X^2 test was used for statistics.
Results: The rate of B3 diagnoses was 8% (3% B3a *vs*. 5% B3b), and the PPV of malignancy following B3 cores was 16% (11% DCIS, 5% invasive breast cancer (IBC)).
Significantly higher malignancy rate was noted in B3b lesions (26%) *vs*. B3a lesions (5%) ($p< 0.01$). There was no significant difference between the histopathology of malignancy (DCIS vs. IBC) following excision biopsy between the B3a and B3b groups.
Conclusions: Risk stratification of B3 lesions based on the presence of atypia can improve the current estimation of risk of malignancy and subclassification into B3a and B3b could therefore guide future management. Multi-centre studies using the B3 subclassification are key to confirm these results, and could support conservative management with regular follow up as a safe option in patients with asymptomatic B3a lesions.

P129
DECREASING RE-EXCISION RATE IN BREAST CONSERVATION – HOW LOW CAN YOU GO? A SINGLE CENTRE EXPERIENCE

Urszula Donigiewicz, Polly King. *Mermaid Centre, Royal Cornwall Hospital, Treliske, Truro, United Kingdom*;

Introduction: National re-excision rates for early breast cancer patients undergoing breast conserving therapy (BCS) are reported at about 20% (NMBRA). These figures reflect differences in margin protocols, intraoperative specimen assessment and localisation techniques.
Methods: Data were analysed from a prospectively collected database of all patients undergoing BCS. Our margin policy is clear at the inked margin for invasive cancer and 2mm for ductal carcinoma in situ (DCIS). Localisation is with radioisotope occult lesion localisation (ROLL), specimens are X rayed using 3D tomosynthesis and the operator paints the specimen postoperatively.
Results: We analysed 432 patients undergoing BCS for invasive breast cancer or DCIS between January 2015 and December 2017. Table 1 demonstrates demographics. 63 patients (14.6%) underwent re-excision for involved margins.

Table 1

	Number	%
No of patients	432	
Mean age	60.9	
Screening referral	243	56.25
Symptomatic presentation	131	30.32
Invasive disease	336	77.78
DCIS	67	15.51
Therapeutic mammoplasty	78	18.06
Wide local excision	165	38.19

355 (82.18%) patients had ROLL in our cohort. Median weight of excised specimens was 27.5g (range 5-241g).
Conclusion: We demonstrate a lower re-excision margin rate in this 3 year analysis in comparison to the national average. We believe this is due to the use of ROLL, leading surgeon marking of margins with paint immediately postoperatively and intraoperative X ray of the specimen, in theatre, with surgeon analysis and visualisation of that image.

P130
REVISION SURGERY FOLLOWING EXTENDED LATISSIMUS DORSI FLAP AND IMPLANT BASED BREAST RECONSTRUCTION– A DISTRICT GENERAL HOSPITAL EXPERIENCE

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Introduction: Extended latissimus dorsi (ELD) flap breast reconstruction has been a very well-established reconstruction modality after mastectomy. Although recently number of ELD flap operation has decreased due to popularity of implant based reconstruction we found rate of revisional surgery were less with ELD reconstruction. Rates of revisional surgery have been quoted between 30% - 75% in the literature. After 5 years we evaluate our rates of revision surgery.
Methods: Analysis of a prospectively maintained breast reconstruction database. Types of initial surgery, complications and rate of revision surgery after radiotherapy specifically noted.
Results: Total Reconstructions: 127

Immediate Reconstructions: 90 (78 ELD flap, 12 Implant only with acellular dermal matrix (ADM)	
Total patients who had further surgery	5
Fat grafting after ELD Flap	3
Fat grafting after implant only	1
Change of implant	1

*Patients with ELD reconstruction also had post-operative radiotherapy and 1 had small skin breakdown of the breast after primary surgery.

Delayed Reconstructions: 37	
Fat grafting after ELD flap Reconstruction	1

Symmetrisation surgery: 9	
Total Patients requiring contralateral symmetry surgery	9
Augmentation mastopexy after immediate ELD	2
Mastopexy after delayed ELD	1
Reduction mastopexy after immediate ELD	4
Reduction mastopexy after delayed ELD	2

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Time from primary surgery to symmetrisation or corrective surgery was between 8 months to 3 years.
Conclusions: About 1.5% of patients required corrective surgery to the reconstructed or contralateral breast. High level of patient satisfaction found with ELD flap breast reconstruction than implant as only small number of patient required corrective surgery even after postoperative radiotherapy.

P131
BREAST CONSERVING SURGERY–CAN WE BE EVEN MORE CONSERVATIVE?

Ashleigh Bell, Alice Townend. *Northumbria NHS Foundation Trust, Newcastle-upon-Tyne, United Kingdom*;

Introduction: There remains controversy as to what constitutes an acceptable margin following breast conserving surgery (BCS). Most UK units follow the Association of Breast Surgery (ABS) guidelines of 1mm clear margin for invasive disease and ductal carcinoma in situ (DCIS) with a minority following the Society of Surgical Oncology and American Society for Radiation Oncology (SSO-ASTRO) guidelines of no tumour at the inked margin for invasive disease and 2mm for DCIS. A recent prospective study (Tang et al) suggested a potential modest reduction in re-excision from 17.2% to 15% were the SSO-ASTRO guidelines to be adopted nationally. This study aimed to evaluate current margins practice in a symptomatic breast unit using ABS guidelines.
Method: We performed a retrospective analysis of patients undergoing BCS between April 2010 and April 2017. Demographics, margin status and need for re-excision were analysed.
Results: A total of 417 BCSs were performed. 78 patients required re-excision (18.2%). For patients with tumour at the inked margin (49%), there was no significant difference in the proportion of positive (48%) and negative (52%) re-excision specimens (p=0.4795). For patients with 0.1-1mm margins (51%), there was no significant difference in the number of positive (46%) and negative (54%) re-excision specimens (p=0.4795).
Conclusion: By using the SSO-ASTRO guidelines, we could have reduced our re-excision rate to 14.8%. However, given degree of margin involvement did not predict likelihood of further disease at re-excision we could not justify this change in our practice. Without large scale RCTs, margins will remain controversial.

P132
DIGITAL BREAST TOMOSYNTHESIS M3 CATEGORY: REASON FOR RECALL, MANAGEMENT AND FOLLOW-UP

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Background: Large prospective trials in screening have shown that the introduction of Digital Breast Tomosynthesis (DBT) has resulted in improvements in the detection of invasive cancer along with a reduction in false positive recalls. In addition the technology improves the detection of distortion, although the assessment of microcalcifications can be more problematic. The probably benign/ indeterminate M3 category in reporting of mammograms indicates the need for further assessment although the risk of malignancy is low.
Aim: To assess the reasons for the M3 categorisation
To evaluate the management of the cohort
To determine the incidence of malignancy
To review the follow up/ discharge rate.
Method: This retrospective review was conducted over a 6 month period. All mammograms with a M3 category were reviewed. The demographic details, clinical findings, mammographic abnormality, intervention, histology results, and follow up were recorded.
Results: A total of 53 patients out of 1665 (3.1%) had a M3 category mammogram report. The average age was 57.4 years. 32/53 underwent image guided biopsies, ultrasound guided biopsy was performed in 19, with DBT-guided vacuum-assisted biopsy in 13 patients. One patient refused any intervention. 9 (16.98%) of the cohort had a diagnosis of cancer; 4 invasive cancers and 5 cases of DCIS. The majority of the patients were discharged after assessment with 28% given follow up appointments.
Conclusion: The RCRBG M3 categorisation has a low chance of malignancy. Our study confirms this and shows that further assessment is required with a M3 category so that definitive diagnosis is made.

P133
MANAGEMENT AND SURVEILLANCE OF WOMEN DIAGNOSED WITH BREAST CANCER WITH A FAMILY HISTORY OF BREAST CANCER: ARE WE NICE COMPLIANT?

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Introduction: In June 2013, NICE published guidelines on the management of women with family history and personal diagnosis of breast cancer. When an individual is diagnosed with breast cancer, the pressure of timely treatment takes priority and there is potential for the family history being overlooked. This could affect follow-up imaging surveillance as well as treatment options.
Methods: We compared our practice with NICE guideline with regards to follow-up imaging and referral to genetics for women diagnosed with breast cancer with a family history. Data was obtained retrospectively on 200 patients with breast cancer from January - March 2014. Initial findings showed unsatisfactory compliance, resulting in a history taking pro forma being produced. A re-audit was conducted on a further 200 patients between May - July 2016.
Results: In the initial audit, family history was taken in 77% of patients, compared with 87% in the re-audit.
37 women had moderate or high risk family history in the initial audit compared with 35 women in re-audit.
43% of women of high risk were referred to genetics initially this increased to 70% in the re-audit. Lastly, 46% of the patients with moderate or high risk had inappropriate imaging follow-up in comparison with NICE recommendations which fell to 11% in the re-audit.
Conclusion: A significant proportion of women diagnosed with breast cancer have moderate or high family risk. Unless the family history is taken appropriately in clinic and highlighted in the MDT when formulting patients' management and follow-up plans, these could potentially fall short of current NICE recommendations.

P134
SENTINEL LYMPH NODE BIOPSY FOR DUCTAL CARCINOMA IN SITU IN BREAST CONSERVING SURGERY

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Introduction: NICE recommends a sentinel node biopsy (SNB) should not be performed for DCIS treated with breast conserving surgery (BCS) unless a patient is high risk for invasive disease. With the advent of therapeutic mammoplasties, larger resections are being performed. As BCS cases they do not usually undergo axillary surgery. This study reviews the outcome of axillary surgery in DCIS in our unit in respect to the changing boundaries of BCS. The aim(s) were to identify when SNB in BCS should be performed and to consider conversely whether it is ever safe to omit a SNB in a 'low-risk' mastectomy.
Method: Patient data was retrieved from the Somerset database and hospital records. All lone DCIS patients treated surgically in our unit over a 1-year period were included; yielding 57 patients with a mean age of 60.3 years.
Results: BCS was the primary surgery performed in 63.1% (n=36) of cases. A SNB was performed in 2 cases which were negative. In 5 further BCS cases secondary procedures involving SNB were performed (4 mastectomy, 1 lone SNB): 1 case yielded a positive result.
All non-BCS patients (n=20) underwent an SNB with 1 positive case. The positive case had unremarkable pre-operative characteristics being within

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one standard deviation of the mean radiological size for mastectomy case and of high grade (total n=14).
Conclusions: The low yield of SNB in mastectomies for lone DCIS suggests it could be omitted in low-risk cases. Further research is required to provide criteria for such a decision.

P135
EXPERIENCES OF WOMEN AND PARTNERS OF WOMEN AT INCREASED FAMILIAL BREAST CANCER RISK: A QUALITATIVE STUDY OF THE IMPACT UPON PARTNERSHIPS

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Introduction: Living at increased familial breast cancer risk is known to impact upon women's health, with sequelae including cancer-related anxiety, body image concerns and relationships changes. Good social support is recognised to reduce distress in women. The impact of hereditary risk on partners of women is not well understood. This study aimed to explore the views and experiences of both women and partners of women who had either undergone or were undergoing risk reducing breast surgery.
Methods: Partners were recruited following a qualitative study of women at increased risk of familial breast cancer and with their permission. Semi-structured interviews were undertaken with both women and partners individually. A process of framework analysis was used to analyse the data.
Results: 27 women interviewed were in a relationship, 7 partners (all male) agreed to be contacted and 6 subsequently also participated. Most women described making decisions independently and of being aware of the how their cancer risk and risk reducing surgery with the associated recovery distressed their partner. Although most partners had an opinion, they were reluctant to influence their partner in how she chose to manage her risk. Access to time to attend appointments and provide care following surgery was challenging and a source of frustration for partners.
Conclusion: Partners have an integral role in providing support and enabling women to undergo risk reducing surgery, which may involve a lengthy physical and emotional recovery. Improved access to support to facilitate partners' involvement may improve outcomes for women and their partners.

P136
CIRCULATING RESISTIN IN EARLY-ONSET BREAST CANCER PATIENTS WITH NORMAL BODY MASS INDEX CORRELATE WITH DISEASE-FREE SURVIVAL AND LYMPH NODE INVOLVEMENT

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Introduction: Early-onset breast cancer (EOBC) affects about one in 300 women aged 40 years or less and is associated with worse outcomes than later onset breast cancer. This study explored serum protein markers of adverse prognosis in patients with EOBC.
Methods: Serum samples from EOBC patients (stages 1-3) were analysed using non-targeted quantitative proteomics. All patients received anthracycline-based chemotherapy. The discovery cohort (n=399) either had more than five-year disease-free survival (DFS) (good outcome group, n=203) or DFS of less than two years (poor outcome group, n=196). Expressed proteins were assessed for differential expression between the two groups. ELISA analysis against an independent sample set from the POSH cohort (n=181) was used to validate target protein expression. Linear and generalized linear modelling was applied to determine the effect of various clinicopathological factors on outcome.
Results: A total of 5,346 unique proteins were analyzed (FDR $p \leq 0.05$). 812 proteins were differentially expressed in the good vs. poor outcome group and showed significant enrichment for the insulin signalling and the glycolysis/ gluconeogenesis ($p=0.01$) pathways. A consistent nodal protein to these metabolic networks was resistin (upregulated in the good outcome group, $p=0.009$). ELISA validation demonstrated resistin to be upregulated in the good outcome group ($p=0.04$), irrespective of BMI and ER status. LN involvement was the only covariate with a significant association with resistin measurements ($p=0.004$). Survival analysis showed that resistin overexpression was associated with improved DFS.
Conclusions: Low resistin levels in EOBC may be a surrogate indicator of worse breast cancer specific prognosis.

P137
A NOVEL SIMULATOR FOR TRAINING JUNIOR DOCTORS IN BREAST SURGERY –A MODEL FOR THE FUTURE?

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Introduction: The availability of breast surgery training for junior doctors in UK and Ireland is becoming ever more limited, due to a reduction in the number of hours available for practice since the introduction of the European Working Time Directive (EWTD), and other service provision commitments.
Methods: Imperial College London created a range of unique silicone-based, hand-made breast surgery simulators for the London General Surgical Skills Programme.
The Association of Surgeons in Training (ASiT) organised a Breast Skills Study day using simulator models for three index procedures - wide local excision, wire-localised excision, mastectomy and axillary dissection with consultant and registrar faculty, for trainees with limited breast experience.
A mandatory, self-reported online questionnaire collected delegate feedback using a Likert scale.
Results: Nineteen delegates attended the course, with a 100% response rate. Respondents included 9 Foundation doctors, 9 Core Surgical Trainees and 1 Specialist Trainee. 69% responders had 'no' or 'a little' prior knowledge of breast surgery. 95% responders rated the simulators as 'excellent' or 'good'. 100% 'strongly agreed' or agreed' that the simulators provided good haptic feedback, with 95% that they would be useful before performing the steps on a patient and 90% that such simulators should be a mandatory component of breast training.
Conclusions: The ASiT Breast Skills Study day demonstrated an increase in delegate skills and confidence. Such simulators once validated could be used to ensure trainees are an acceptable standard before attempting life-changing operations on patients with the possibility of reducing the 'learning curve' to become proficient.

P138
ISOTOPE-ONLY LOCALISATION OF SENTINEL LYMPH NODE BIOPSY–MEDIUM-TERM ONCOLOGICAL OUTCOME

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Aims: Isotope and blue dye dual localisation in sentinel lymph node biopsy (SLNB) gives localisation rates of over 98% and is the recommended technique for SLNB. However blue dye carries a risk of adverse reactions. For 8 years we have routinely omitted blue dye, only using it in patients without a clear isotope signal on-table.
Methods: Electronic patient records from patients who underwent sentinel node using only isotope for the detection of the sentinel node between July 2010 and April 2012 were examined, and localisation and oncological data were collected.
Results: 431 patients were included. Isotope-only localisation rate was 97.2% (419/431). The median follow-up was 63.4 months (IQR:60.9-70.9).

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Median age was 57 (IQR: 48-67). Median SLN yield was 2 (range: 0-5). Axillary recurrence rate was 1.4% with median time to recurrence 39.3 months. In-breast recurrence was 3.5%, distant disease rate was 7.7% and contralateral breast cancer was 2%. 16 (3.7%) patients died of metastatic breast cancer.
Conclusion: Isotope-only SLNB has a satisfactory localisation rate and can spare the majority of patients the risk of blue dye adverse reactions. The low axillary recurrence rate, maintained to more than 5 years, suggests that this is feasible and safe alternative to dual technique.

P139
VIEWS AND EXPERIENCES OF MRI BREAST SCREENING IN WOMEN AT INCREASED FAMILIAL BREAST CANCER RISK

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Introduction: Over the past decade the availability of MRI breast screening has increased to the extent that it is now widely available to women at very high risk of familial breast cancer, including *BRCA* mutation carriers, as a method of managing this risk. This study aimed to explore women's expectations and experiences of MRI breast screening.
Methods: A bespoke questionnaire was designed based on the findings of a separate semi-structured interview study. A focus group review of the draft questionnaire added validity. Participants were identified from a tertiary centre family history database. All were at very high levels of familial risk. The study had ethical approval.
Results: 157 were invited to participate, 51 responded favourably and 36 completed questionnaires were returned, 17 from women who had undergone risk reducing mastectomies (RRM) and 19 from women in MRI screening. RRM women expressed greater concern about screening missing cancers (66.67% vs 42.1%) and interval cancers developing (84.6% vs 47.1%). The screening group were more optimistic about cancers detected being caught early than the surgical group (89.4% vs 61.5%). 76.5% of RRM women chose surgery because they didn't feel that screening would protect them. Only 15.8% of screening women were planning to undergo surgery in the future.
Conclusion: Women's views of screening vary, likely due to their personal and familial experiences with cancer and screening. Accurate information about women's individualised risk and about the different risk management strategies is important to allow women to choose a technique with which they remain satisfied.

P140
BRCA 1/2 MUTATION CARRIERS' AUDIT. SURVEILLANCE AND PREVENTIVE INTERVENTION AMONGST AFFECTED AND UNAFFECTED GROUPS DURING 2004–2016 PERIOD

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Aim: To audit incidence of BRCA1/2 mutation carriers tested positive between 2004 -2016 period in South-East Scotland (SESGS) and to analyse patient's age, surveillance and preventive intervention chosen amongst affected and unaffected groups at the time of testing.
Material and Method: Retrospective analysis of BRCA1/2 tested positive at the SESGS. Annual incidence, surveillance and preventive interventions amongst groups were analysed.
Results: 495 patients' records were identified positive for BRCA1/2 mutation during 2004 - 2016. The distribution among BRCA1/2 showed no significant difference (SD) p>0.05, 399(81%) were females. The incidence of positive patients increased significantly from 2013, reaching a peak in 2014 and 2015, with 61, 118 and 84 cases respectively p<0.05. Age at the test in affected group was 50.3 years and 38.9 years in the unaffected, SD p<0.001. This difference between groups did not vary during the years. Patients with breast cancer (BC) as first episode underwent mastectomy only (Mtx) in 25.5%, lumpectomy (WLE) in 48% and immediate reconstruction (IR) in 24%. Second cancer patients had WLE in 45%.
Risk reducing mastectomies and type of reconstruction among affected and unaffected group showed SD p<0.001. Implant reconstruction (IR) was more frequent in unaffected groups 78%, SD p< 0.01. Mammogram surveillance was used in 44.5% women.
Conclusions: Over last years the number of BRCA positive patients has significantly increased, reaching a peak in 2014. Affected patients were significantly older than unaffected ones when tested. WLE was the most frequent surgery for first breast cancer episode. Auditing this population will help to forecast future service needs.

P141
INITIAL EXPERIENCE OF ARTIA™ IN IMPLANT BASED RECONSTRUCTION—A SUCCESSFUL INTRODUCTION INTO PRACTICE OF THIS NOVEL ADM

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Introduction: The Oncoplastic Breast Unit at Great Western Hospital Swindon has been an early adopter of ARTIA™ for implant based breast reconstruction since February 2017, on a background of STRATTICE ™ since 2014.
Initial experiences are presented through comparison with the national target standards set out by ABS and BAPRAS.
Method: A retrospective audit of the first 42 cases using ARTIA™ was performed from February to November 2017. Data was collected from the secure hospital patient information database.
Surgery was undertaken by two consultant oncoplastic surgeons using strict unit guidelines for patient selection, perioperative and post-operative care.
Results: 42 implant based reconstructions using ARTIA™ were performed (n=42); 9 were bilateral.

Table 1

Demographics	
Median age (yrs)	47
Current smokers	3 (7.1%)
BMI<30	42 (100%)
Previous WLE in ipsilateral breast for current disease	12 (28.6%)
Mastectomy	
Nipple-sparing	39 (92.9%)
Mastectomy weight<600g	40 (95.2%)
Mean mastectomy weight (g)	311.8
Simultaneous axillary surgery	
ANC	5 (11.9%)
SNB	13 (31.0%)
Reconstruction	
ARTIA	
Medium	35 (83.3%)
Large	7 (16.7%)
Implant type	
Fixed	27 (64.3%)
Expander	15 (35.7%)
Final pathology	
Invasive disease	27 (64.3%)
In situ disease	5 (11.9%)
None	10 (23.8%)
Chemotherapy	
Adjuvant	6 (14.3%)
Neoadjuvant	12 (28.6%)
Post-operative radiotherapy	11 (26.2%)

Complications	
Implant loss (national target<5%)	0
Return to theatre (national target<5%)	0
Antibiotics for post-operative infection (national target<10%)	0
Other - seroma	2

Discussion: The successful introduction of ARTIA™ in combination with careful patient and implant selection and adherence to established local

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peri-operative and post-operative guidelines has produced initial outcomes well within published guidelines.

P142
STAGING INVESTIGATIONS IN NEOADJUVANT SYSTEMIC THERAPY

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Introduction: Neoadjuvant systemic therapy (NST) is increasingly being offered to patients based on tumour biology. There are no guidelines on staging investigations in the neo adjuvant setting. In our unit, all patients considered for neoadjuvant chemotherapy undergo staging CT thorax, abdomen, pelvis and bone scan. The aim of this study was to evaluate if staging investigations have an impact on the management of these patients.
Methods: Retrospective data (demographics, indications for NST) on patients who underwent staging scans before NST from February 2014 to February 2017 was collected and analysed.
Results: A total of 95 with a mean age of 55 (range: 20 - 75) years were considered for NST. 52 patients were node positive and 26 patients had locally advanced disease. In the early stage group, 42 were triple negative, 25 HER-2 positive and 2 ER positive, HER-2 negative cases. In total, 8% of cohort had metastatic disease on staging. In locally advanced cancers and early TNBC, the yield was 19% and 4% respectively. Interestingly all patients with metastatic disease in early TNBC had a tumour size between 4 and 5 cm. There was no metastatic disease in other early stage groups.
Conclusion: Our results suggest that staging investigations should be selectively performed in patients who are offered NST as the impact is minimal in early stage breast cancer with aggressive tumour biology.

P143
AXILLARY LYMPH NODE DISSECTION (ALND) TRAINING IN A POST-Z0011 ERA—A NATIONAL SURVEY OF UK BREAST SURGERY TRAINEES

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Introduction: ALND is an essential procedure in the surgical management of breast cancer. There has been a well recorded decline in ALND rates, especially given practice changing studies such as ACOSOG Z0011. Our hypothesis is that trainee exposure has decreased, impacting experience and confidence. A national survey of breast surgical trainees was conducted in order to assess this.
Methods: A survey including questions pertaining to demographics and experience of ALND training was developed and administered electronically to trainees at a deanery level and through the Mammary Fold (data were collected between 04/2017 and 08/2017). Opinions regarding training methods and the effect of Z0011 on ALND rates were also assessed.
Results: Of 95 respondents, 30% reported confidence in performing ALND independently. Over half (51%) felt that ALNDs had decreased significantly since Z0011, with only 20% agreeing they had adequate exposure during training. Only a small proportion (19%) had assisted with more than 30 ALNDs in total, and an even smaller proportion (13%) had performed more than this with a trainer scrubbed. Trainees would welcome further opportunities, including via simulation, which many felt would increase confidence.
Conclusion: Trainees lack confidence in performing ALNDs, partly due to lack of exposure. In conjunction with time in the operating room, simulation has been acknowledged as a useful aide to develop skills, and has been described in breast surgery for SLNB and WLE. We are presently validating an in-house high fidelity ALND simulator for training and assessment.

P144
PATIENT SATISFACTION AND RE-AUDIT OF THE VACUUM EXCISION (VACE) PATHWAY FOR THE MANAGEMENT OF BREAST LESIONS OF UNCERTAIN MALIGNANT POTENTIAL (B3)

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Introduction: The VACE pathway was introduced at St Georges Hospital in 2015. The first year's data was presented at the Association of Breast Surgery (ABS) Conference in 2017. 93 patients were managed by VACE resulting in 17 patients being upgraded to cancer. The complexity of the pathway resulted in three patients breaching the 62 day cancer target. The longest interval in the pathway was between core biopsy and VACE. In response, VACE capacity was increased and earlier MDT discussions were introduced. This is a re-audit of our outcomes following these changes. We also present our first patient satisfaction survey results.
Methods: All patients in the VACE pathway 14/09/2016 - 29/09/2017 were included. Patient demographics, pathology data and dates for key pathway components were recorded. A patient satisfaction survey was designed and sent to patients at 6 months following VACE.
Results: 238 patients (mean age 55 years, range 30 years) were studied. 19 patients were upgraded to cancer (17 invasive, 2 DCIS) and had subsequent surgery. All patients with cancer met the 62 day target. 30 patients returned their survey which demonstrated an overall satisfaction rate of 87%.
Conclusions: The VACE pathway has been successfully introduced at St George's Hospital. Increasing capacity and streamlining the pathway has improved outcomes. 219 patients avoided surgery while those diagnosed with cancer were treated within national cancer timeframes with high patient satisfaction. We hope that planned future patient surveys at 6 weeks after VACE will improve the response rate.

P145
MANAGEMENT OF B3 LESIONS: IS YEARLY MAMMOGRAPHY FOR FIVE YEARS NECESSARY?

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Introduction: Current guidelines recommend excision and yearly mammographic follow-up of lesions of uncertain malignant potential (B3). This is due to the risk of upgrade to malignancy and the 3-5 fold increased risk of breast cancer in the long term. We present a 10-year experience in a single centre to determine the upgrade rate and yield from yearly surveillance.
Method: A total of 130 women between 2007 and 2016 were identified from pathology databases with indeterminate (B3) on core biopsy. Their subsequent excision pathology and mammographic surveillance was reviewed. Inclusion criteria: Female patients with a core biopsy of ADH, AIDP or LCIS. Exclusion criteria: invasive cancer or DCIS identified in addition.
Results: Most patients underwent excision by mammotome biopsy (27%) or wide local excision (68%). The remaining 5% underwent surveillance only, breast reduction or prophylactic mastectomies. 66% completed their 5-yearly mammographic follow-up. Only 9 patients (6.9%) had mammographic changes. 2 developed further B3 lesions and 1 developed malignancy (Grade 2 Invasive Lobular Carcinoma), however this was in the 6th year.
Conclusion: No B3 core biopsies were upgraded to cancer within the 5 years. The 5-year risk of developing another B3 lesion was 1.5%. During this 10-year period only 1 new cancer was identified. 34% of patients didn't complete yearly mammographic follow-up, however they also did not represent symptomatically. This study suggests that 5-yearly mammographic surveillance may not be necessary for all B3 lesions. Further research would identify which patients would benefit from surveillance and prevent unnecessary mammograms.

P146
IMPROVING BREAST Q CAPTURE RATES IN RECONSTRUCTIVE SURGERY AT THE ROYAL DEVON & EXETER NHS FOUNDATION TRUST USING IPADS: A COMPLETED AUDIT CYCLE

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Introduction: Patient Reported Outcome Measures (PROMs) were introduced in 2009 to improve the quality of care delivered in the NHS and to inform clinicians and commissioners about care quality. The well-validated Breast-Q was introduced to the RD&E in 2014 for breast reconstruction in paper format. From 2017, data collection occurred via an iPad. The aim of this project was to audit effectiveness of iPad data capture and patient satisfaction.
Methods: Pre-operative and 3 month post-operative Breast-Q scores were analysed for 2017. To improve data capture, any outstanding post-operative PROMs were sent by post.
Results: In 2017, 87 patients underwent breast reconstruction. 76.2% were immediate reconstructions. 22% of reconstructions were deep inferior epigastric perforator flaps, 12.7% lastissumus dorsi flaps, 34.9% were implant-based only. One patient underwent transverse rectus abdominis myocutaneous reconstruction.
Pre-operative Breast-Q data collection improved to 63.2% (32% in 2014) when using iPads. Post-operative data collection remained similar, return rate 52.7% (50% previously). Total pre-operative and post-operative data collection improved from 16% of patients in 2014 to 33.3% in 2017.
In 2017, mean satisfaction with breast increased from 57.8 pre-operatively to 72.3 post-operatively. Sexual well-being increased from 37.5 to 83.2. Physical well-being (abdomen) scores fell 86.8 to 53.3 post-operatively, similar to 2014.
Conclusion: Patient satisfaction scores remain high. Breast-Q collection has improved through using iPads and engaging breast reconstruction nurses. The aim for 2018 is to provide an iPad in all outpatient clinics and engage all senior clinicians to improve post-operative data capture and provide individual clinician capture scores.

P147
RESPONDING TO IBRA- A CONSERVATIVE APPROACH TO ONE-STAGE ADM BREAST RECONSTRUCTION MAY IMPROVE OUTCOMES

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Background: UK reported outcomes of one-stage acellular dermal matrix (ADM) assisted implant-based breast reconstructions are extremely variable. Results from the phase 1 iBRA study suggest that nationally implant loss rates remain high (8.1%) with this technique. In this dual centre cohort study of single-stage ADM assisted breast reconstructions we present results that can be achieved using a conservative approach to selection of patients, implants (fixed-volume (FV) vs. permanent temporary-expander (PTE)) and early wound management.
Outcomes: 5 surgeons in 2 units performed 105 single-stage ADM assisted breast reconstructions in 86 patients (69 FV, 36 PTE), with an average follow-up length of 974 days. The mean age, BMI and breast weight were 48 years, 24Kg/m^2 and 348g respectively. Only one patient was a smoker, 2.9% patients had stopped smoking less than 1 year pre-operatively. There were no significant comorbidities amongst our cohort. The overall complication rate was 14.3%, with 9.5% requiring a return to theatre within the first 3 months. Implant loss rate at 3-months post-operatively was 3.8%, which increased to 5.7% at 1 year.
Conclusions: These results demonstrate values within the target standards from the NMBRA; and significantly lower implant loss ($P<0.0035$, $P<0.0135$) and complication rates ($P<0.0008$, $P<0.0006$) for this reconstruction technique compared to comparative studies. We believe that our units have improved outcomes due to measures taken to minimize complications; in particular strict patient selection criteria, implant selection and aggressive wound management. These steps are easily adoptable and we believe similar results could be reproduced within differing units.

P148
THE IMPACT OF NEOADJUVANT THERAPY IN THE TREATMENT OF BREAST CANCER ON SURGICAL OUTCOMES: ONE BREAST UNIT REVIEW OF PRACTICE.

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Introduction: The surgical benefits of neoadjuvant therapy (NAT) relates to the reduction of the primary tumour burden in the breast and axillary nodes, potentially enabling BCS and SLN biopsy in previously node positive patients. Pathologic complete response (pCR), is a powerful predictor of patients' survival. We review our practice on the use of NAT in the treatment of operable breast cancer patients, looking at the surgical outcomes related to their pCR.
Methods: This study prospectively looks at the 15% of patients (in the West of Glasgow), diagnosed with operable breast cancer, who received NAT, between 2015 and 2017. Our database included patients demographic, the breast cancer type/ grade, receptors and nodal status, indications for NAT, pCR and surgical outcomes.
Results: The 77 patients receiving NAT were aged 30 - 86. 86% had ductal carcinoma (91% >Grade 2). Main indications for NAT were large cancer to try to conserve and for positive axillary nodes. NAT was given as chemotherapy alone (n=39); + Herceptin (n=17); + hormone (n=2), hormone alone (n=19). pCR: complete response (n=18), partial response (n=46), none (n=9), unquantifiable (n=4). 18 patients who had a complete pCR, 63% underwent mastectomy and 73% had an axillary clearance. Those who had >50% partial response, 44% underwent mastectomy.
Conclusion: Despite good pCR, a large % of this patient cohort still had mastectomy and axillary clearance. This was not due to patient choice but to clinician and MDT preference. Our results have prompted us to reassess our surgical practice following complete clinical and radiological response after NAT.

P149
BREAST IMPLANT ASSOCIATED ANAPLASTIC LARGE CELL LYMPHOMA– A CRITICAL APPRAISAL OF THE CURRENT EVIDENCE BASE

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Introduction: Breast Implant Associated Anaplastic Large Cell Lymphoma (BIA-ALCL) is a rare disorder found in patients post-implant-based breast surgery. To date, fewer than 400 cases have been reported worldwide with still limited understanding. This study aims to review and assess the current literature, scope for further study, and suggests methods for improvement.
Methods: Medline and Cochrane database searches were conducted using terms ALCL and breast. Duplicates and comments were excluded. Articles were organised by type and focus of investigation.
Results: 113 articles were identified (11 exclusions), mostly published in 2015-17: 36 case reports; 15 scientific papers; 23 literature reviews; 4 meta-analyses; and 20 case series, only 2 of which had $\geq$100 cases, and only 3 with pooled international data (largest n=383). 37 articles were focused on diagnosis, 29 on treatment and prognosis, 42 on epidemiology or aetiology. Publications consist mostly of Level V evidence.
Conclusions: BIA-ALCL was accepted as a distinct clinico-pathological entity (WHO 2016), following increased awareness over the last 5 years. Nevertheless, this review shows that the evidence base for incidence, treatment, prognosis and prevention is still scarce and variable. Only one paper addresses whether there has been a change in practice amongst surgeons; this merits further research. Current management relies heavily on literature reviews, often of low level evidence, and consensus statements. The most sensible method of increasing our knowledge and management of BIA-ALCL is by meticulous data keeping through national registries, and by international collaboration allowing a robust systematic review in order to draw meaningful conclusions.

P150
LIPOMODELLING COMES OF AGE AS AN INTEGRAL COMPONENT OF A UK ONCOPLASTIC SERVICE WITH EXCELLENT MORBIDITY, ONCOLOGIC AND PATIENT REPORTED OUTCOMES

Irene Athanasiou [1], Ghulam Wattoo [1], Haley Hocking [1], Kodappa Kolar [1], Nazar Kazzazi [1], Clare Rogers [1], Olumuyiwa Olubowale [1], Kathryn Rigby [1], Lynda Wyld [1,2]. [1]*Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust, Doncaster, United Kingdom*; [2]*University of Sheffield, Department of Oncology and Metabolism, Sheffield, United Kingdom*;

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Introduction: Lipomodelling has been increasingly adopted as an adjunct to oncoplastic surgery to improve cosmetic outcomes after breast surgery. Low and high volume techniques may be used. This audit has evaluated the indications, morbidity and patient reported outcomes (PROs) of lipomodelling in a single UK oncoplastic unit following its introduction in 2010.
Methods: Consecutive cases of lipomodelling were retrospectively audited by case note review according to a standardised pro forma between 2010 and 2017. Breast Q questionnaires were administered to assess patient satisfaction.
Results: Lipomodelling was performed on 96 women (median age 53, range 28 - 73). 70% used the Coleman technique, 21% high volume and 8% a combination. Lipomodelling was used to correct conservation surgery outcomes in 34%, simple mastectomy flap enhancement in 6% and whole breast reconstruction adjustment in 60%. Indications were: volume symmetrisation in 13%, shape symmetrisation in 53% and/or correction of indentation in 73%. Prior radiotherapy had been administered in 55%. The majority (76%) were day cases.
Injection site complications were rare, with 4% experiencing early bruising, pain or infection and longer term fat necrosis or oil cysts in 13%. Donor site morbidity was more frequent: 47% experiencing transient pain and/or bruising. There were 2 local recurrences: 1 WLE scar (injection site), one mastectomy flap (not injection site). PROs using the BREAST-Q (response rate 46/96) demonstrated excellent patient satisfaction, (median outcome score 75, psychosocial wellbeing score 77.5).
Conclusion: Lipomodelling is a safe and effective adjunct to oncoplastic surgery with low morbidity and excellent patient satisfaction.

P151
CHEST WALL PERFORATOR FLAP FOR PARTIAL BREAST RECONSTRUCTION: IS IT COST EFFECTIVE?

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Introduction: Partial breast reconstruction techniques are valuable additions to the armamentarium of surgeons performing oncoplastic procedures and it is become increasingly popular. We report 2 centres' experience of chest wall perforators flaps (CWPF) and its cost effectiveness.
Methods: This is an observational cohort study of patients who underwent CWPF after breast conserving surgery (BCS) from 2015 to 2017. Cost benefit analysis was performed to assess how much money saved by avoiding mastectomies and immediate implant based reconstructions.
Results: N=39 patients, median age of 54 years (27-73 years). Screen detected in 38.5% (15/39) patients, symptomatic in 59.0% (23/39) patients and 1/39 was diagnosed incidentally. On needle core biopsy pre-invasive and invasive cases were 25.6% (10/39) and 74.4% (29/39) respectively. Eight patients completed neoadjuvant chemotherapy.
Anterior intercostal perforator flap (AICAP) and lateral intercostal perforator flap (LICAP) were performed in 12.8% (5/39) and 87.2% (34/39) patients respectively. The median post op tumour size was 30mm (9-70mm). Four patients had further re-excision margin(s) and only 1 patient was offered completion mastectomy.
The median post-operative stay was 1 day (0 - 2 days). Three patients developed postoperative complications including haematoma, fat necrosis/infection and lateralisation of nipple areolar complex post radiotherapy, but none had surgical intervention. If these patients underwent mastectomy and immediate reconstruction, the extra costs would have been £3500/patient. These costs could be greater if any complications occurred or unplanned revision surgery was required following mastectomy.
Conclusions: CWPF for partial breast reconstruction not only can avoid mastectomies but are also cost effective.

P152
ARE LOBULAR FEATURES ON CORE BIOPSY AN INDICATION FOR PRE-OPERATIVE MRI?

Sadaf Jafferbhoy, Yanyu Tan, Mihir Chandarana, Seema Salehi-Bird, Elizabeth Gunning, Zatinahhayu Mohd Isa, Saba Bajwa, Sekhar Marla, Robert Kirby, Sankaran Narayanan, Soni Soumian. *University Hospitals of North Midlands, Stoke-on-Trent, United Kingdom*;

Introduction: Pre-operative MRI is routinely performed in patients with lobular carcinoma to assess multifocality and contralateral lesions. However, there is paucity of evidence on the significance of lobular features seen on primary core biopsy. In our unit, all patients with lobular features on core biopsy are offered pre-operative MRI. The aim of this study is to assess the impact of MRI on management of these patients.
Methods: All patients with lobular features on core biopsy from November 2013 to August 2017 were identified. Retrospective data on demographics, imaging findings, investigations, treatment details was collected and analyzed.
Results: Of the 144 patients with a median age of 56 (range 34-74) years, a second look ultrasound was performed in 58 cases (40%). Biopsy was taken from 18 ipsilateral breasts (12%), 12 contralateral breasts (8%) and 3 ipsilateral axillae (2%). Treatment plan was changed in 39 patients (27%) of whom 40% needed mastectomy instead of wide local excision and 36% needed larger excisions. The final histology showed ductal carcinoma in 49%, mixed ductal and lobular carcinoma in 29% and lobular carcinoma in 22% cases. However, the distribution of histology in the cohort where management changed was different (49% ductal, 38% mixed and 13% lobular). MRI overestimated the size in seven cases (5%) of which six had breast conserving procedure.
Conclusion: Pre-operative MRI changed treatment plans in a significant proportion of patients in our unit. We suggest that lobular features on core biopsy should also be considered as an indication for pre-operative MRI.

P153
TRENDS IN THE DIAGNOSIS OF SYNCHRONOUS BILATERAL BREAST CANCER

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Introduction: Synchronous bilateral breast cancer (BBC) is not an uncommon diagnosis with a reported incidence of 2-3%. The use of breast magnetic resonance imaging (MRI) has exponentially increased in the last five years. It is proposed that this, along with the use of digital mammography, may have contributed to increased detection rates of BBC. We report the trend of BBC over a nine-year period at a single institution.
Methods: A retrospective analysis was performed on patients diagnosed with BBC from 2009 to 2017. Data including patient demographics, tumour characteristics and mode of diagnosis were collected and analysed.
Results: Of 4980 breast cancer patients, 131 (2.6%) had BBC. There was no significant increase in its incidence over nine years. Of these, 86 (66.4%) patients presented symptomatically while 36 (27.5%) were detected by screening. Mammograms detected contralateral breast cancer in 67 (78%) patients from the symptomatic group and 24 (66.7%) from the screening group. MRIs detected contralateral breast cancer in 9 (10%) from the symptomatic group and 7 (19.4%) from the screening group. Although the number of MRIs performed for BBC cases increased from one patient in 2009 to 11 in 2017, there was no change in the rates of contralateral breast cancers detected by MRI.
Conclusion: There is no increase in incidence of BBC over the last nine years. Mammogram is a good modality for detecting contralateral breast cancers and routine use of MRI for this reason is therefore not justified. Further studies with larger number of patients are needed.

P154
IMPROVED ACCURACY AND EFFICACY OF SENTINEL LYMPH NODE BIOPSY WITH SENTIMAG: A NOVEL SENTINEL AXILLARY NODE LOCALISATION TECHNIQUE

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Introduction: Sentinel lymph node biopsy (SLNB) is a widely accepted staging procedure for node negative breast cancer. A number of centres use technetium-99m (Tc99) with or without blue dye to locate the sentinel

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node(s) which requires a nuclear medicine unit and complex licensing. We are one of two centres in the UK to introduce SentiMAG (a magnetic tracer) to improve accuracy of SLN.
Aims: To assess SLNB accuracy by comparing number of nodes taken using blue dye only, versus blue dye and SentiMAG. To assess success rates of each method, and compare with published rates for SentiMAG and Tc99.
Methods: Retrospective data collection of 80 consecutive patients (40 before introducing SentiMAG; 40 after) undergoing SLNB using a standardised technique. Successful sentinel node (SN) localisation is classified as the localisation of minimum one blue or magnetic node.
Results: An independent-samples t-test was conducted to compare the number of nodes taken in each group. There was a significant difference in the number taken with blue dye only (M=3.43, SD=1.50) and the number taken with blue dye and SentiMAG (M=2.65, SD=1.69); t(78)=2.17; p=0.03. The success rate for blue dye and SentiMAG used individually was 72%, versus 82.5% when combined, compared to published figures of 94-98% for both SentiMAG and Tc99 used alone.
Conclusions: Using SentiMAG combined with blue dye improves accuracy of SLNB, reduces node oversampling and improves identification rates of SN.
SentiMAG success rates were lower than published figures which could be attributed to the learning curve required.

P155
THE IMPACT OF RECEPTORS DISCORDANCE IN RECURRENT METASTATIC BREAST CANCER PATIENTS AND ITS PREDICTIVE OUTCOME

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Tumor phenotype may change during BC progression, Discordance in HR and HER2 status between primary tumors and metastatic sites for BC is well established.
We conducted this single center retrospective study to evaluate the impact of receptors discordance between primary and recurrent metastatic patients and its impact on Patients' outcome as prognostic and predictive factor.
All metastatic recurrent BC patients diagnosed from November 2009 to December 2016 at King Fahad Hospital were identified in our database and reviewed by our pathologists. Patients were included if they had excision or core biopsy and were treated in our center.
Results: A total of 428 patients were identified as metastatic recurrent BC cases, only 113 pts (26.4%) had a tissue biopsy. 42 pts (38%) were local recurrence and 71 pts (62%) were metastatic. 20.3% (23 pts) of these had discordant HRs or HER2 status when compared to the initial diagnosis. Discordance for ER, PR, and HER2 was 21.7%, 47.8%, and 17.4%, respectively. Initial Staging I, II, III was 21.7%, 52.2, and 26.1% . Mean time to progression from initial diagnosis was 3.9 ys (Range 1.5-8 ys). LR was detected in 39.1%, metastasis was 91.3% and LR & metastasis were detected in 7 pts (30.4%). $\geq$2 metastatic sites were 47.8%. Referactory disease and progression was 69.6% (16 pts). Patient has worse outcome compared with concordant pts (p=0.04). Median post progression actuarial 1 year OS was 47.4% (95% CI) and 2ys was 13.3% (95% CI).
Conclusion: Our study demonstrated the negative impact of receptors discordance on disease outcome.

P156
LET'S TALK ABOUT: FERTILITY PRESERVATION IN YOUNG BREAST CANCER PATIENTS

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Introduction: Approximately 10% of patients diagnosed with breast cancer each year are young females (under 50 years) and chemotherapy during the treatment can affect their fertility. NICE guidelines[1] state that women with breast cancer should have the opportunity to discuss the impact of their treatment on their family planning and be offered fertility-preserving procedures. This local audit assessed our performance against these guidelines and whether treatment was completed in patients who declared an interest in fertility preservation.
Methods: Data was collected retrospectively from clinical documentation for all breast cancer patients under 50 years diagnosed over an 18-month period.
Results: 100 patients aged 26 - 49 were diagnosed with breast cancer during the audited time period and 64% received chemotherapy. Fertility preservation was discussed before start of chemotherapy with 20/64 (31.25%) of all patients, 16/25 (64.0%) of patients under 40 and 3/4 (75%) of patients under 30. 8/20 (40.0%) were interested in fertility preservation, with the highest interest in patients aged 30-40 (6/13 (46.0%). Only 1/8 (12.5%) completed preservation; reasons against completion of fertility preservation were change of decision after discussion with fertility experts (3/8), metastatic disease diagnosed (3/8) and lack of funding (1/8).
Conclusions: Our unit discusses fertility preservation with the majority of patients under 30, however there is need for improvement in patients aged 31-49. Our audit results will be used locally to improve the multidisciplinary approach to conversations regarding fertility preservation.
Reference:
[1] National Institute for Health and Care Excellence (2013) Fertility problems: assessment and treatment (CG156).

P157
IMPACT OF PATHOLOGY REPORTING TIMES ON DECISION-MAKING FOR NEOADJUVANT SYSTEMIC THERAPY IN BREAST CANCER

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Introduction: Efficient and timely decisions are critical for patients planned to undergo neoadjuvant chemotherapy (NST). A complete pathology report with hormone receptor and HER-2 status is essential for making decisions on treatment. We report on time taken for histopathology reporting and its impact on decision-making for NST at our institution.
Methods: Local approval was obtained. A retrospective analysis of breast cancer patients who received NST between January 2015 and February 2017 was conducted. Time taken for decision-making for NST was evaluated. A further analysis was performed to analyse the time taken for reporting tumour receptor statuses and its impact on decision-making.
Results: 68 patients were included in this analysis. 22 patients (32%) had decisions for NST made in the first MDT and 37 (54%) had decisions made by the second MDT. The mean time taken for oestrogen receptor status reporting was 7.56 days (±5.02 SD), for progesterone receptor status reporting it was 7.53 days (±5.43 SD) and for HER-2 status reporting it was 9.79 days (±6.56 SD). In the subset of patients requiring fluorescence in situ hybridization (FISH) for HER-2 status, the mean reporting time was 17.3 days (±5.81 SD). The delay in reporting of HER-2 receptor status therefore had a significant impact on decision-making for NST.
Conclusion: Receptor status reporting time frames have an impact on decision-making for NST. Pathways to facilitate early receptor reporting need to be established to avoid any delay in starting NST.

P158
NEGATIVE PRESSURE DRESSINGS SIGNIFICANTLY DECREASE RATES OF WOUND BREAKDOWN AND MAY REDUCE IMPLANT LOSS RATES IN PREPECTORAL BREAST RECONSTRUCTION

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Introduction: Single-use negative pressure wound therapy (PICO™) has been used on closed incisions with good results. It is used when patient factors impair wound healing, or in complex wounds, such as in implant-based reconstruction (IBR). We report findings from a cohort study of PICO™ use in prepectoral breast reconstruction.
Methods: A prospective database of implant-based reconstruction was mined to identify prepectoral patients. Patient demographics, surgical complications and outcomes were analysed accordingly.

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Results: Prepectoral IBR was performed on 254 breasts, in 155 patients in our institution from 2013 to present. PICO™ dressings were used in 102 cases with standard dressings used in 152 cases. ASA classification, weight or comorbidities were not significantly different between the groups. Wound breakdown occurred in 9 cases without a PICO™ dressing. This was salvaged in 3 cases, however, led to reconstruction failure in 6 cases. There were no episodes of wound breakdown or reconstructive failure in those with a PICO™ dressing. This difference was significant for wound breakdown (p 0.01, Fisher's exact), however it did not reach significance for reconstructive failure (p 0.08, Fisher's exact).
Conclusion: The use of negative pressure wound therapy (PICO™) significantly reduces the rate of wound breakdown in prepectoral IBR. The rate of reconstructive failure is greater without this therapy, however it did not reach significance. These data probably reflect increasing use of PICO™ in our unit in light of initial data. A prospective randomised controlled trial may confirm these findings and inform national guidelines.

P159
OPTIMISING BREAST CANCER CARE IN THE OLDER WOMAN—REGIONAL ANAESTHETIC BLOCK IN ELECTIVE BREAST CANCER SURGERY

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Introduction: The National Audit for Breast Cancer in Older Patients (NABCOP) identified limitations in the management of breast cancer in older women. Some of these patients are high risk for anaesthesia, which may be a contributory factor to their suboptimal management. Regional nerve block may be a viable alternative to general anaesthetic in this patient cohort by increasing uptake of surgical treatment and reducing risk and post-operative complications.
Methods: Clinical data, operative records and medication charts were retrieved retrospectively for patients receiving BCS or mastectomy +/- axillary procedure with regional anaesthetic block between August 2017 and December 2017 at a London District General Hospital. Analysis was conducted using Microsoft Excel.
Results: Five female patients underwent regional thoracic paravertebral block (TPVB) for their surgery. This was at thoracic level 2, 3, 4 and 5 with 5ml at each level using 10ml 0.5% bupivacaine and 2% lidocaine. The median age was 76 years and median ASA score was 3. The median LOS was 2.4 days. No patients required post-operative opioids. There were no post-operative complications of nausea/vomiting or thromboembolism in this cohort.
Conclusion: Offering TPVB is a novel anaesthetic option which may improve patient outcomes and experience in breast cancer surgery. TPVB reduced post-operative pain and length of stay, allowing early discharge and minimisation of related costs. Further studies are warranted to assess the benefits of regional anaesthesia and guide the formulation of a local protocol to improve the management of older women with breast cancer.

P160
THE RELATIONSHIP BETWEEN VOLPARADENSITY™ BREAST VOLUME MEASUREMENTS AND MASTECTOMY SPECIMEN WEIGHT— A NEW PRE-OPERATIVE TOOL TO GUIDE IMPLANT SELECTION

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Introduction: VolparaDensity™ is a fully automated breast density assessment software that estimates the percentage volume of fibroglandular tissue from digital mammograms. Previous studies have shown a strong association between volumetric breast density as assessed by Volpara and breast cancer risk. This current study assesses the utility of Volpara in guiding implant selection. Current approaches to implant selection are imprecise. Mastectomy weight is often used as the final guide. Improved outcomes both aesthetically and financially could be achieved if more precise pre-operative methods of implant selection are developed.
Method: Data on patient demographics, mastectomy type, specimen weight and Volpara volume and density measurements were collected on mastectomy patients between January 2014 and June 2016. Linear regression was performed to determine how well these metrics predict mastectomy weights.
Results: 181 mastectomies were performed in 174 patients (mean age 59 years). 124 patients were post-menopausal and only 12 were on hormone replacement therapy. 151 were cancer procedures and 30 were risk reducing. Mastectomies performed were simple (n=91), total (n=15), skin/nipple preserving (n=60) and skin reducing (n=15). Overall there is a good correlation between Volpara volume and mastectomy weight (R^2=0.807). On subgroup analysis, correlations were strongest for: patients on HRT (R^2=0.904), skin/nipple preserving mastectomies (R^2=0.901), Volpara density grade 4 patients (R^2= 0.875), and premenopausal patients (R^2=0.841).
Conclusions: Volpara volume measurements correlate well with mastectomy weight particularly in younger patients with dense breasts. These results support the use of Volpara as an additional tool in guiding implant selection in the pre-operative setting.

P161
PREOPERATIVE AXILLARY MRI WITH SUPERPARAMAGNETIC IRON OXIDE (SPIO) NANOPARTICLES TO LOCALISE AND ASSESS SENTINEL NODES FOR A US GUIDED BIOPSY. PRELIMINARY RESULTS OF THE MAGUS FEASIBILITY TRIAL

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Introduction: SPIO nanoparticles have comparable performance to the isotope and blue dye combination for the detection of the sentinel lymph node (SLN). SPIO may also identify the SLN in axillary MRI lymphography. Additionally, it resides in the tissue for a prolonged period.
Methods: Candidates are all patients with breast cancer planned for a SNB. Preoperatively, an axillary MRI will be performed before and after the injection of SPIO in the breast to assess the SLN(s). Before the operation, a "targeted" magnetic guided axillary US (MagUS) after MRI review and with the magnetic probe will then be conducted to assess the SLN(s) and percutaneous node biopsy will be performed. Preliminary results from the first 10 cases are presented (total sample 60).
Results: Median age was 61 years (46-74) and tumour size 15mm (5-95). Macrometastases were present in two cases; one patient had micrometastasis and another one had ITC. There was complete concordance (100%) for the location of the SLN between MRI and MagUS. The MagUS was 100% specific and 67% more sensitive than the B-mode AUS for the presence of metastases since it detected the cases with macrometastases, whereas the MRI was suggestive of axillary pathology in 50% of cases with metastatic tumour burden. Core biopsy was representative in 90% of cases. No complications occurred.
Conclusions: SPIO MRI lymphography and targeted MagUS seem to be feasible and reproducible techniques. The completion of the MagUS feasibility trial will hold more concrete results towards less invasive methods of preoperative axillary mapping.

P162
UNDERSTANDING THE GENETIC RELATIONSHIP BETWEEN PRIMARY AND CONTRALATERAL BREAST CANCER (CBC) COULD PRESENT OPPORTUNITIES FOR PERSONALISED SURGERY

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Young age at primary diagnosis and family history are known CBC risk factors, in common with hereditary breast/ ovarian cancer syndromes. Although CBC incidence is low, requests for contralateral prophylactic mastectomy (CPM) for unilateral breast cancer treatment are rising, despite no proven survival advantage. This study aims to guide CPM decision-making by improving our understanding of CBC risk in individuals.
403 CBC patients in Northern Ireland were identified. With ethical approval, detailed pathological and survival data was collated. Archival

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primary and CBC tissue was obtained for each patient for targeted sequencing of a panel of genes including those commonly mutated in breast cancers and known breast cancer risk predisposition genes. This study aims to:

- Determine clonal relatedness of primary and contralateral tumours.
- Investigate underlying predisposition gene mutation rate in this cohort by sequencing germline DNA from normal tissue.

Preliminary data suggests limited clonal relatedness between primary and contralateral tumours, but has revealed a higher than expected rate of both known pathogenic germline predisposition gene mutations and variants of unknown significance in these women. Further sequencing and analysis is currently ongoing.

Our data suggests a significant proportion of women who develop CBC, may do so due to the presence of a predisposing risk gene mutation, although the completed sequencing of this cohort will refine this data. Nonetheless, if these findings are borne out, our data may suggest that the use of routine panel testing for predisposition mutations in those women requesting CPM may be a strategy to help personalise surgical treatment.

P163
HIGHER RISK BREAST SURGERY PATIENTS DO NOT REQUIRE ADMISSION TO OVER-STRETCHED ACUTE HOSPITALS

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Background: Breast surgery has become a short-stay specialty, however, many day surgical units adopt a policy of not accepting ASA grade 3–4 patients triggering a lengthy and frustrating admissions process. This is particularly true where bed pressures remain high.

Our unit audited the interventions ASA grade 3-4 patients require during admissions.

Methods: Bluespier Theatre Management System© was utilised to create a database of all operations performed by breast surgeons within the Trust between 1st January 2017 and 31st December 2017. Patients were grouped into ASA 1-2 and ASA 3-4. Electronic records of ASA 3-4 patients were reviewed and any medical interventions were noted.

Results: Of the 1086 operations performed, 5% (59) were on patients graded ASA 3-4. The rest were ASA grade 1-2. Of the ASA 3-4 patients, 93% were performed at the acute site hospitals as opposed to the short-stay unit in line with current Trust policy.

Our audit of electronic inpatient records of these patients revealed that they required no added medical intervention during their hospital admissions. There was no difference in median length of stay between ASA 3-4 versus ASA 1-2 patients (both zero days).

Conclusion: ASA 3-4 patients did not require increased medical attention relative to ASA 1-2 patients following breast surgery. These patients could be offered surgery at day-case or ultra-short stay elective surgical units. Application of the results of this audit will relieve bed pressures at acute sites throughout the NHS improving ED waiting times, patient flow and increasing efficiency.

P164
INDIVIDUALISED RISK PREDICTION BASED ON ADJUSTED PREDICT AND BODICEA SCORES FOR PATIENTS CONSIDERING CONTRALATERAL PROPHYLACTIC MASTECTOMY (CPM)

Tania de Silva, Victoria Russell, Francis Henry, Paul Thiruchelvam, Dimitri Hadjiminas, Ragheed Al Mufti, Katy Hogben, Judith Hunter, Simon Wood, Navid Jallali, Daniel Leff. *Charing Cross Hospital, London, United Kingdom*;

Introduction: CPM has no proven survival advantage in sporadic BC, and when coupled with autologous reconstruction has major resource implications and morbidity. Arguably, CPM should be reserved for patients with high contralateral breast cancer risk (CBRC) [NICE threshold:>30% lifetime risk]. We aimed to evaluate the impact of BODICEA CBCR calculations versus survival predictions (PREDICT) on retrospective decision-making for CPM, within confines of service evaluation.

Methods: PREDICT-Online was used to calculate 10-year survival for 252 patients undergoing mastectomy and autologous reconstruction for unilateral cancer, using age, diagnostic mode and histopathology. Modified 10-year survival estimates were calculated based on individual treatment received. Web-based BODICEA calculator was utilised to determine CBCR using index histopathology and family history. Data was analysed using SPSS(v20) to correlate modified-PREDICT versus BODICEA scores and identify patients with CBCR of >30% and >70% 10-year survival.

Results: Of 252 consecutive patients, 215 had unilateral and 37 had bilateral surgery. Of those undergoing CPM, only 38% (14/37) had CBCR>30%. Only n=5 patients with CBCR>30% didn't undergo CPM. Interestingly, majority of CPM were performed at patient request (n=7), for low-risk “family history” (n=6); ipsilateral recurrence (n=4); prior contralateral pathology (n=4) and genetic “variant” (n=1).

Conclusion: Without prospective scoring, patients with low CBCR are undergoing CPM and a small proportion with good prognoses and substantial CBCR are not offered CPM. Predictive CBCR and survival calculations could improve decisions regarding CPM. Further work to develop surrogate risk and survival estimates, without need for final histology is needed to aid decision-making.

P165
FACTORS THAT MAY INFLUENCE THE DECISION TO OFFER SLNB FOLLOWING NEOADJUVANT CHEMOTHERAPY IN WOMEN WITH UPFRONT AXILLARY NODE METASTASIS

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Introduction: Following the results of recent studies the offer of SLNB following neoadjuvant chemotherapy in women with upfront axillary node metastasis is increasing. Careful selection of women for this procedure is important in reducing multiple surgeries.

Methods: All women with cytologically or histologically proven metastasis to an axillary node who subsequently underwent neoadjuvant chemotherapy between 2012 and 2015 in a single Scottish health board were included. Clinical and pathological factors and their relationship to a pathological complete response (pCR) in the axilla were evaluated using the Chi squared test. All patients underwent an axillary node clearance following chemotherapy.

Results: Data for 104 women were available. 40 (38.5%) achieve an axillary pCR. The presence of palpable nodes (46.9% vs. 31.5%), multiple nodes on USS (39.1% vs. 39.5%) or clinical stage at presentation (II - 39.7% vs. III - 37.0%) were not significantly associated with axillary pCR. Tumour biology was significantly associated with axillary pCR (Luminal 22% vs. HER2+ 60% vs. TNBC 45.8%). Of the women with residual axillary node involvement 26/64 (40.6%) had <3 nodes positive.

Conclusions: Tumour biology but not necessarily stage at presentation should be factored into discussions with women who are being offered SLNB after neoadjuvant chemotherapy when involvement of the axillary nodes was confirmed at diagnosis. Particularly for women with luminal type breast cancer serious consideration to intraoperative analysis of the node should be considered if offering completion axillary node clearance as definitive axillary treatment for residual axillary disease.

P166
OUTCOMES IN UNILATERAL BREAST CANCER PATIENTS FOLLOWING UNILATERAL MASTECTOMY AND RECONSTRUCTION VERSUS BILATERAL MASTECTOMY RECONSTRUCTION

Tania de Silva, Victoria Russell, Francis Henry, Paul Thiruchelvam, Dimitri Hadjiminas, Ragheed Al Mufti, Katy Hogben, Judith Hunter, Simon Wood, Navid Jallali, Daniel Leff. *Charing Cross Hospital, London, United Kingdom*;

Introduction: Bilateral mastectomy (BM) and addition of reconstruction is thought to increase the risk of complications when compared to unilateral mastectomy and reconstruction (UM) alone.

Methods: We reviewed a single institution’s experience of 252 unilateral breast cancer patients undergoing mastectomy and autologous

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reconstruction and stratified them according to either UM (n=215) or BM (n=37 with contralateral prophylactic mastectomy). We measured operative time (mins), post-operative complications (Clavien-Dindo classification) and length of hospital-stay (days).

Results: There was no significant difference in age (53±9.6 years, n=215 vs 59±9.1 years; *p= 0.49*) or 5 year [t(250) =-0.038, p = 0.21] and 10 year PREDICT survival estimates [t(249)=-1.55, *p= 0.73*]. The addition of CPM significantly increased hospital stay (UL=6.18±2.6 days vs 7.57±4.4 days; *P=0.002*). Although complication rates were only slightly higher in BM (37% vs 30%) when they did occur, patients were twice as likely to require surgical intervention in the BM group (33% vs 17%). There was no significant difference in operative time *(p=0.45)*.

Conclusion: BM confers a longer hospital stay and greater risk of complications requiring re-operation. Patients must be informed of additional risks on the prophylactic side and the potential risks associated with delaying adjuvant treatment. Only in BRCA mutation carriers do survival benefits arguably outweigh the associated risks. Further work is needed to determine financial implications of BM in unilateral sporadic cancers regarding direct medical costs, re-operative costs and loss of work days.

P167
IMPLEMENTATION OF ENHANCED RECOVERY AND EARLY DISCHARGE FOR ONCOPLASTIC BREAST SURGERY IN RURAL NORTH-WEST WALES; AN AUDIT OF EVOLVING CLINICAL PRACTICE AND OUTCOMES

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Introduction: Early-discharge (ED) following breast surgery has been adopted across England in line with NHS Improvement's '23-Hour' model improving patient care, experience and health economics.

This was implemented in Ysbyty Gwynedd, serving a rural population occupying a large geographical area.

An audit of clinical practice was undertaken following implementation, and re-audited after development of this system.

Methods: A retrospective case-note review was undertaken from 50 consecutive patients 6 months before and after implementation of ED. Admission/ discharge dates were noted demonstrating length of stay (LoS) following surgery. Day-case rate, type of surgery, drain use, complication and return to theatre rate were also documented.

All cases were included and consisted of malignant, benign, aesthetic and reconstructive case mix.

Development of our model evolved with experience and practice was re-audited at three years.

Results: See Table 1

Table 1

	Pre-Implementation	Post-Implementation	3 Year Post-Implementation
Median age (years)	64	60	57
Median LoS after surgery (days)	4	1	0
Day-Case rate	2%	14%	77%
One-Night stay	8%	52%	20%
>1 night stay	92%	36%	3%
Breast-Conservation Rate	50%	60%	77%
Drain use	56%	36%	20%
Admission day before	98%	34%	8%
Complication rate	14%	4%	3%
Return to theatre rate	6%	0%	3%

Conclusions: Implementation of ED was successful and did not increase complication or readmission rates, whilst the reduction in bed-days utilised reflects a significant cost-saving.

Same-day discharge is now enjoyed by the majority of patients, and may be due to an increase in breast-conserving surgery techniques, reduced drain use, efficacious nerve blocks, and patient education.

P168
HORMONE RECEPTOR EXPRESSION IN PREGNANCY-ASSOCIATED BREAST CANCER: A SYSTEMATIC REVIEW OF THE LITERATURE

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Introduction: Pregnancy-associated breast cancer (PABC) constitutes 7% of all breast cancers (BCs) and is defined as BC occurring anytime during gestation, lactation or within one year after delivery. As hormonal factors associated with pregnancy and lactation may play a complex role in such cases, hormone receptor status has been assessed in several studies with contradictory results.

Methods: PRISMA guidelines for systematic reviews and meta-analyses were followed. Pubmed and Scopus databases were searched systematically for studies which evaluate HR status, including expression of ER and PR receptors of patients with PABC. Twenty seven articles were eligible for inclusion in this systematic review.

Results: Majority of included studies were matched case-control studies that compared PABC with non-pregnant BC cases. From studies regarding ER expression (total fourteen) PABC cases had a lower frequency of ER-positive tumors compared to BC group. PR expression was assessed in thirteen articles. Eight studies showed a statistically significant difference regarding low frequency of PR-positive tumors in PABC group compared to BC group. Finally, from the studies that evaluated the hormone status, HR(+) was more common in BC than PABC group.

	PABC	BC
ER (+) tumors	28.6%-64.3%	39.5%-77.6%
PR (+) tumors	11.9%-46.7%	34.3%-75.2%
HR (+) tumors {ER (+) or PR (+) or both ER (+) and PR (+)}	29.7%-67.1%	37%-79.3%

Conclusion: The observation that most patients with PABC lack ER/PR expression may be related to a different biological behavior of such tumors. Therefore, studies are needed to evaluate further.

P169
OUTCOME OF ANGIOSARCOMA OF THE BREAST IN THE EAST MIDLANDS

Maziyah Ahmed [1], Hauwa'u Nadama [1], Marta D'Auria [2], Thomas McCulloch [3,4], Giuseppina Mondani [5], Jaroslaw Krupa [5], Lisa Whisker [6,4], Robert Ashford [3,5]. [1]*University of Nottingham, Nottingham, United Kingdom*; [2]*Lincoln County Hospital, Lincoln, United Kingdom*; [3]*East Midlands Sarcoma Service, Nottingham, United Kingdom*; [4]*Nottingham University Hospitals, Nottingham, United Kingdom*; [5]*University Hospitals of Leicester, Leicester, United Kingdom*; [6]*Nottingham Breast Institute, Nottingham, United Kingdom*;

Background: Breast angiosarcoma (BAS) is a rare malignancy with a poor prognosis. Primary BAS arises spontaneously, whereas secondary BAS is usually associated with therapeutic radiation exposure for primary breast carcinoma (PBC). Although the incidence of BAS is believed to be rising, high-quality data is lacking. This study aims to evaluate the management and subsequent outcomes of BAS.

Methods: Patients with a histological diagnosis of BAS, treated by the East Midlands Sarcoma Service between January 2000 and March 2016 were identified using a pathology database. Data were collected retrospectively from patient notes, including demographics, operative and oncological interventions, complications and outcomes.

Results: 16 patients were identified; 1 with primary BAS and 15 with secondary BAS. PBC presented at a mean age of 59 years (range 41-70) and treatment included surgery (100%), radiotherapy (100%), chemotherapy (50%) and endocrine therapy (50%). The mean age at presentation secondary BAS was 65 years (range 43-78) and the patient with primary BAS presented at 29 years. The mean duration between PBC and BAS diagnosis

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was 6 years (range 0 - 11). Treatment of BAS included surgery (100%), and adjuvant radiotherapy in the patient with primary BAS. 64% patients developed local recurrence of BAS at a mean of 10 months (range 1 - 24). 55% patients developed metastasis. 64% patients died during the study period; mean survival was 7.9 years.
Conclusion: Due to the rarity of BAS, the sample size is small, highlighting the importance of larger scale, multi-centre collaborative studies to gain a more comprehensive understanding of its natural history.

P170
MANAGEMENT OF BREAST CANCER IN THE ELDERLY. IS TREATMENT CHANGING OVER TIME?

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Introduction: Pathways for management of breast cancer in older patients was recently examined by the National Audit of Breast Cancer in Older Patients. It was recognised there were inconsistencies in surgical care across the UK. Consequently, we aimed to examine local management by identifying patients' length of stay (LOS), and reviewing treatment plans to ensure care is consistent with clinical guidelines.
Methods: Trust approval was obtained prior to the study (Ref:8342). All patients aged 70 and above were retrospectively analysed. Admissions for definitive cancer surgery during the financial year 2016/17, were compared to trends 5 and 10 years previously. To avoid duplicate entries and confounding LOS, we excluded patients undergoing diagnostic procedures and re-admissions for completion surgeries. Analysis included LOS, type of surgery and prior primary endocrine therapy.
Results: A total of 344 patients were included. Median length of stay during 2006/07 compared to 2011/12 and 2016/17 showed constant improvement, with a median stay of 4 days dropping to 2.5 and zero days respectively. Breast conservation rates increased from approximately 55% to a current 65%. Wire guided procedures accounted for 51% of BCS during 2016/17, but were rarely performed previously. During 2016/17, 37% of patients were referred through the National Screening Programme. All these patients were under 80 years of age. The proportion of patients receiving surgery following endocrine treatment was 9%.
Conclusions: Length of stay improved over the 10-year study period, with more patients receiving BCS and falling in line with management of younger patients.

P171
DELAYS IN THE BREAST CANCER PATHWAY FROM ASSESSMENT TO TREATMENT: POTENTIAL TREATMENT IMPLICATIONS

Jennett Kelsall, Lisa Hamilton, Lisa Whisker. *Nottingham Breast Institute, Nottingham, United Kingdom*;

Introduction: An efficient pathway from diagnostic biopsy to obtaining complete pathology results is essential to allow the full range of treatment options to be discussed with patients, including neo-adjuvant therapies. We audited our unit pathway from assessment, through diagnosis to post-operative results to identify delays which may impact treatment discussions.
Methods: A retrospective audit was undertaken of 100 screen detected invasive breast cancers managed at our institution from November 2016 until February 2017. Time from biopsy to pathology results, multidisciplinary meetings (MDT), treatments and clinics were recorded.
Results: Mean time from biopsy to initial invasive result was 3 days; mean time to diagnostic MDT and informing the patient in clinic was 5 days. Estrogen Receptor status was available on average 5 days post biopsy (79% available at the diagnostic MDT), HER-2 receptor status mean of 10 days. Only 10% of patients had HER-2 status available in time for discussion and treatment planning at the diagnostic MDT & clinic. 26 patients required FISH testing, which took on average 25 days; resulting in 17 patients having HER-2 results available after surgery. 5 patients with HER-2 positive tumours did not have this result available prior to their surgery. The average time to surgery was 22.5 days.
Conclusions: For patients with ER negative or HER-2 positive disease, delays in obtaining complete biopsy results may limit the treatment options, as a fully informed discussion about suitable neo-adjuvant options is not possible within cancer treatment targets.

P172
OUTCOMES FOLLOWING BECKER'S IMPLANTATION

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Aims: Limited data exists on the long-term outcome of Beckers implants (BI) when associated with radiotherapy. Immediate breast reconstruction (IBR) following mastectomy is a favoured approach by some, but the concern of subsequent cosmetic deformity due to radiotherapy has impacted on the type of reconstruction offered to patients. This study aimed to quantify the number of patients who underwent a mastectomy with BI reconstruction and from this cohort the outcomes of those who underwent radiotherapy.
Methods: A retrospective case note review of consecutive patients who underwent an IBR with BI between January 2010 to October 2016 was undertaken. Those who had radiotherapy and those who did not were then compared for baseline demographics, oncology follow-up, implant complications and morbidity were recorded. SPSS v20 was used for statistical analysis of data.
Results: In 6 years, 420 mastectomies were performed. 60 (14.3%) underwent a BI of which 16 had radiotherapy, a further 6 had radiotherapy with a supraclavicular fossa (SCF) boost. 2 patients were offered radiotherapy but declined, and 26 did not require radiotherapy. 10 had absent data regarding whether they were offered radiotherapy and were excluded from further analysis.
There was a higher rate of contractures ($p=0.024$) in the radiotherapy group. Interestingly there were no significant differences in post-operative complications, implant loss rates, rippling, skin necrosis, re-operation or death between the groups.
Conclusion: The impact of radiotherapy on BI is primarily around contractures from our small cohort. Larger numbers are needed to assess for the full impact of radiotherapy on BI.

P173
METICULOUS TECHNIQUE OF SKIN SPARING MASTECTOMY AND IMMEDIATE RECONSTRUCTION IS ESSENTIAL FOR A LOW LOCAL RECURRENCE RATE

Eric Drabble. *Derriford Hospital, Plymouth, United Kingdom*;

Aim: Ensure that skin sparing mastectomy produces an aesthetic removal of the breast, and reconstruction, without retaining any significant breast tissue.
Method: Skin sparing mastectomies and reconstruction (TRAM, extended latissimus dorsi flap, and implant techniques), performed by a single surgeon 1997 - 2013, who sampled subcutaneous fat on the skin envelope, were assessed for;

- Histological evidence of breast epithelial elements in subcutaneous fat samples from the skin envelope
- Grade and stage of disease
- Local recurrence
- Systemic recurrence
- Aesthetic outcome by independent colleagues

The surgeon's individual, and hospital electronic radiology and pathology databases were interrogated.
All patients with invasive or extensive non-invasive carcinoma, and those requiring prophylactic mastectomy, bar those unfit for extensive surgery, or with T4 or inflammatory carcinomas unresponsive to neoadjuvant chemotherapy, or known metastatic disease, were offered the procedure.
Results: 402 skin sparing mastectomies were reviewed, 357 with subcutaneous biopsy results. Median follow up period is now 13 years. To date, 3 patients had residual breast epithelial elements, 4 developed local recurrence, 42 systemic recurrence. The annualised local and systemic recurrence rates are currently 0.08% and 0.80%. All were offered appropriate adjuvant therapy recommended by the MDT, 3 refused. The local recurrence rate over this extended follow up period was <1%.
Independent colleagues judged the aesthetic outcome as good for 76%, moderate for 20%.

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Conclusion: A meticulous approach to skin sparing mastectomy and reconstruction allows very good local disease control as well as an aesthetic outcome.

P174

PATIENT- AND PANEL-REPORTED OUTCOME OF SIMPLE MASTECTOMY WITHOUT DRAINS

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Introduction: Since the publication by Taylor et al [EJSO 2013], drains are not routinely used after simple mastectomy in our unit. This service evaluation investigated the effect of omission of drains on patient-reported outcome and panel-assessment of appearance.
Methods: With institutional approval, patients who had undergone a unilateral mastectomy within 5 years were invited to complete the BREAST-Q and have photographs taken.
Exclusion criteria included prior radiotherapy, use of a drain, immediate or delayed reconstruction, and relapse (local / distant). Photographs were assessed by a panel (8 surgeons and 2 nurses involved in breast surgery) for prominence of the scar, adherence to chest wall, presence of excess skin, dog ear or swelling, and for overall appearance.
Results: Recruitment ran from November 2016 to November 2017. Of 78 eligible women, 46 participated but only 38 agreed to photographs. Overall, the median panel score was 2.73 (IQR 2.0-3.27). Adherence of scar to chest wall was scored worst, then excess skin etc, then prominence of scar.
Mean BREAST-Q score for satisfaction with breasts was 47.9, psychosocial well-being 66.8, sexual well-being 46.2, and physical well-being 71.9. 82% were satisfied or very satisfied with their appearance in the mirror clothed.
Conclusion: These PROMs scores are lower than those in the National Mastectomy and Breast Reconstruction Audit (83% (very) satisfied with appearance clothed and mean score for satisfaction with breasts of 59). Omission of drains may be a contributing factor but a larger, randomised study is needed to investigate this further.

P175

SINGLE CENTRE ONCOPLASTIC SURGERY FOR BREAST CONSERVATION IN EARLY BREAST CANCER– THE TAYSIDE EXPERIENCE

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Aim: To evaluate the outcome of local practice in patients undergoing Breast Conservation Surgery for local treatment in early breast cancer in terms of re-excision rates, oncological follow-up and complication profile.
Methods: A prospective database of patients treated with breast conserving procedures in NHS Tayside has been maintained since 2011.
Results: Prospective patients from the 2011 - 2017 period inclusive have been taken into account. 158 cancers have been excised in 153 patients, the majority of which underwent unilateral therapeutic mammoplasty with a contralateral symmetrising mammoplasty (69%). The remainder underwent unilateral therapeutic mammoplasty for unilateral cancers (21%), volume replacement procedures (7%) or bilateral therapeutic mammoplasties for bilateral cancers (3%). The majority of cases were performed as a joint case with a plastic and breast surgeon present (82%). Patient age ranged from 30 to 80 years (mean 57 years). Re-excision rate was 5.7%. Complications necessitating a return to theatre included haematoma (2.6%) and skin necrosis requiring debridement and skin grafting (1.3%). Complications treated conservatively included wound dehiscence (2.6%), partial nipple necrosis (2.6%) and fat necrosis (1.3%). Mean follow-up time was 23 months (range 0-75 months). Local recurrence occurred in 3.9% of patients, distant metastases in 5.9% and 2.6% of patients have died.
Conclusion: We present our experience of breast conserving procedures in 153 patients. These procedures are generally carried out as joint cases and have an acceptable re-excision rate, low complication profile and are safe from an oncological perspective.

P176

CAN INTERNAL SURGICAL ADHESIVE FACILITATE DRAIN-FREE MASTECTOMY? A RANDOMIZED, PROSPECTIVE MULTICENTER NON-INFERIORITY CLINICAL STUDY COMPARING WOUND CLOSURE WITH DRAINS TO WOUND CLOSURE WITH TISSUGLU® AND NO DRAINS IN MASTECTOMY

Polly King [1], Amit Goyal [2], Monica Kaushik [3], Iris Scheffen [4], Matthias Warm [5], Lisa Whisker [6], Sirwan Haddad [7], Ralf Ohlinger [8], Michael Lux [9], Tamara Kiernan [10], Stefan Paepke [11]. [1]*Royal Cornwall Hospital, Truro, United Kingdom*; [2]*Royal Derby Hospital, Derby, United Kingdom*; [3]*University Hospitals of Leicester NHS Trust, Leicester, United Kingdom*; [4]*St Elizabeth Hospital, Cologne, Germany*; [5]*Holweide Hospital, Cologne, Germany*; [6]*Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*; [7]*Royal Hallamshire Hospital, Sheffield, United Kingdom*; [8]*Greifswald University Hospital, Greifswald, Germany*; [9]*Erlangen University Hospital, Erlangen, Germany*; [10]*St. Helen's and Knowlsley NHS Trust, St Helens, United Kingdom*; [11]*Technical University of Munich, Munich, Germany*;

Introduction: Mastectomy closure without drains has many potential advantages. This study compares a lysine-based high strength adhesive with standard wound drain application.
Methods: An ethically approved post-market non-inferiority multicentre randomized trial compared standard closure with drains (SWC) vs drain-free closure with adhesive (DFTG) in mastectomy +/- SLNB. Primary outcome was the number of post-operative clinical interventions, including drain removal and aspirations. Secondary endpoints included total wound drainage and patient satisfaction. A QOL patient questionnaire was administered at multiple follow-up visits.
Results: 77 mastectomy subjects across 11 centres were randomized. 7 subjects were excluded for subsequent ALND or dropped out. Results of the 70 PP subjects are in the table below. Values are Mean ± SD (Min, Median, Max). Patient satisfaction was higher and pain scores were lower in the DFTG group Table 1.

Table 1

	TissuGlu (37 subjects; 41 breasts)		Control (33 subjects; 36 breasts)		P-value
	# per Breast	Total # of Events	# per Breast	Total # of Events	
Total Clinical Interventions	1.32 ± 1.57 (0.0, 1.0, 6.0)	54	2.03 ± 1.42 (1.0, 2.0, 7.0)	73	<.0001
Drain removal	0.00 ± 0.00 (0.0, 0.0, 0.0)	0	1.14 ± 0.35 (1.0, 1.0, 2.0)	41	<.0001
Needle aspiration	1.29 ± 1.55 (0.0, 1.0, 6.0)	53	0.81 ± 1.17 (0.0, 0.0, 5.0)	29	0.0144

Conclusion: Drain-free mastectomy closure with TissuGlu leads to no overall increased invasiveness compared to drain use and is preferable to the patients. Further investigation comparing DFTG to mastectomy closure without drains and without flap fixation would be appropriate as a next step.

P177

DEMONSTRATION OF AN EFFECTIVE NURSE-LED CLINIC FOR PATIENTS WITH OESTROGEN RECEPTOR-POSITIVE BREAST CANCER TREATED WITH PRIMARY ENDOCRINE THERAPY (PET)

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Introduction: PET is an effective treatment for oestrogen receptor-positive breast cancer for patients unfit for surgical intervention. This institution has run a nurse-led follow-up clinic for PET patients since January 2013, to monitor tumour response, encourage medication compliance and detect disease progression. An audit was performed exploring its effectiveness and the progress of a cohort of patients over a 55-month period.
Methods: Multidisciplinary team healthcare professionals were interviewed, gathering opinion on effectiveness measures of the clinic. An observational study with retrospective data collection was performed with patients treated with PET between January 2013 and October 2017. Patients having PET as neo-adjuvant treatment or who presented with metastatic disease were excluded.
Results: 2164 breast cancers were diagnosed between January 2013 and October 2017, 169 were treated with PET. Within the PET patients, 92 (53.5%) were alive with controlled disease, 38 (22%) had died with controlled disease, 27 (17.4%) had disease progression and 12 (7%) were lost to follow-up.
Mean time to progression was 20 months and only three (11%) cases occurred after 30 months. 48% of progression cases were detected in the clinic, 62% of these patients regained disease control with additional treatment. These results demonstrate a clinic that is maintaining disease control and detecting early progression, enabling timely referral for further intervention.
Conclusions: A nurse-led clinic provides effective follow-up, allowing patients to live with controlled disease. Prompt detection of disease progression was shown to lead to significant acquisition of controlled disease. We suggest minimum follow-up period of 30 months.

P178
ACCEPTED SURGICAL MARGINS IN BREAST CONSERVATION SURGERY– WHAT DIFFERENCE DOES IT MAKE?

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Introduction: The 2015 ABS Consensus on Margin Width in Breast Conservation Surgery (BCS) recommends further surgery when invasive or in-situ disease is found within 1mm of surgical margin. We reviewed our re-excision rates, and subsequent pathology, in a breast screening population undergoing breast conservation surgery prior to the consensus.
Methods: All patients recalled via the NHS Breast Screening Programme (NHSBSP) in Sheffield between April 2008 and June 2015 were retrospectively identified. Those who underwent BCS were analysed for surgical and pathological information using local Trust databases.
Results: During this time period, 1026 patients were diagnosed with new breast cancer.
779 (75.9%) underwent BCS as their primary breast cancer excision.
102 (13.1%) underwent further surgery due to compromised surgical margins. 95 (93.1%) involved circumferential margins; 34 (33.3%) had multiple margins affected. Residual disease was identified in 32 cases (31.4%). Multiple margin involvement conferred a statistical trend with further disease (Chi-squared test, OR 0.42, p=0.052).
If the ABS consensus had been applied, 30 patients with margins between 1 - 2mm would not have received re-excision. 4 (13.3%) of these patients had further disease identified.
Had ASCO guidance (no ink on tumour for invasive disease, or 2mm for pure DCIS) been implemented, 52 patients would not have received re-excision. 14 (26.9%) of these patients had further disease identified.
Conclusions: Further surgery following BCS in our cohort was 13.1%.
Further disease was found in 31.4% of these patients.
Strict adherence to ABS margin consensus would have left residual disease in some patients.

P179
AUDIT OF MASTECTOMY CASES: REVIEW TO IMPROVING DAY CASE RATES

Cho Ee Ng, Claudia Harding-Mackean. *Countess of Chester Hospital, Chester, United Kingdom*;

Introduction: Day case surgery is best practice for mastectomy, it also attracts the higher tariff. In our unit, monitoring suggested that we were not meeting the target of 30% set by British Association of Day Surgery (BADS). We audited our practice to identify areas for improvement.
Methods: A retrospective review of all mastectomy cases in a single breast unit between January 2017 and August 2017 was performed. Data was obtained from the hospital electronic record system include patient demographics, anaesthetic technique, post-op pain control, length of stay and 30-day re-admission rates.
Results: 62 patients underwent mastectomy with a mean age of 64.8 (SD=13.3). 21% of these had previous history of a previous breast cancer. 8.1% had only mastectomy, 19.4% with axillary node clearance, 43.5% with lymph node biopsy, 29% with immediate reconstruction with or without axillary procedure. 16.1% had greater than 3 co-morbidities. 56.5% had additional region anaesthetic blocks, with a median pain score documented at recovery discharge of 0. 98.4% had a same day admission with 48.4% having their operation in the morning list. 25.8% were successfully treated as day case. The number is greater (36.4%) if adjusted to exclude all reconstructions and to include discharges within 24 hours.
Discussion: Within our cohort, >50% would have been suitable for day case however half of these will need to be listed for the afternoon. Excluding factors such as social circumstances and psychological reasons, our unit has demonstrated that it is achieving the target 30%.

P180
THE NEEDS OF BREAST CANCER PATIENTS AT THE END OF TREATMENT

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At the Nottingham Breast Institute we are keen to improve the care of our patients at the end of treatment and so conducted a service approved audit to see what their needs are and how best we can meet them.
Method: A mixed methodological questionnaire was given to 80 patients who attended the Nottingham Breast Institute for a one year follow up appointment in August 2017. 47 patients completed the questionnaire. The data was analysed using SPSS.
Results: 32% of respondents reported feeling negative at the end of treatment with the most common feelings being fear, depression and isolation. 66% of respondents felt positive at the end of treatment with the most common feeling being relief. Interestingly there was a positive correlation between how prepared they were for the end of treatment and how they felt. 47% of patients admitted to contacting their Breast Care Nurse after treatment, the two most common reasons for this being reassurance and questions related to treatment side effects. 70% of patients would have liked their Breast Care Nurse to contact them after the completion of treatment. Interestingly there was no correlation between the types of treatment and the needs of patients.
Results: This audit has highlighted and number of needs for our patients at the end of treatment and as such we have decided to conduct a research project looking at the best way to meet these needs comparing group sessions and end of treatment packages.

P181
EFFICACY OF ULTRASOUND IN THE EVALUATION OF AXILLARY LYMPH NODES IN BREAST CANCER

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Objectives: To evaluate the diagnostic performance of pre-operative ultrasound axilla in characterisation of lymph node status in patients with breast cancer by comparison to sentinel lymph node biopsy histology.
Methods: We conducted a retrospective data analysis of 101 cases (1 male) between January 2017 and May 2017 at King George Hospital, Ilford. Data was collected using online systems: PACS, Cyberlab and EPRO following which sensitivity, specificity and accuracy were calculated. Results were correlated to relevant literature found using MEDLINE and PUBMED.
Results: 19 cases were found to be histologically positive on sentinel lymph node biopsy of which only 1 case was identified on pre-operative ultrasound. 82 cases were histologically negative and 78 of them were identified on ultrasound with 4 false positive results.

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	True (Hx +'ve)	False (Hx −'ve)
us Positive	1	4
us Negative	18	78

Performance was calculated as follows:
USS Sensitivity: 5%
USS Specificity: 95%
PPV: 20% NPV: 81%
Accuracy: 78%
Conclusions: Although our numbers are limited our data show similar results and trends to the previous literature: Ultrasound appears to be fairly specific in the diagnosis of axillary metastatic involvement. However the use of contrast enhanced sonography or addition of elastosonography could enhance the sensitivity and specificity of our practice.

P182
RESORPTION, INTEGRATION OR ENCAPSULATION– ARE THINGS TWICE AS LIKELY TO GO WRONG WHEN USING ACELLULAR DERMAL MATRIX (ADM) IN IMPLANT RECONSTRUCTIONS?

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Background: Use of acellular dermal matrices (ADM) has expanded significantly over recent years for implant based breast reconstructions (IBR). The aim of ADM use is integration, with vascular and tissue ingrowth to provide support for the implant. However, ADMs can undergo resorption or encapsulation due to the immunological responses. This study explores clinical outcomes following use of three different ADMs across four hospitals in IBR.
Methods: This study was collective review of two audits of IBR using three ADMs (Strattice, Surgimend & Veritas) across specialist breast units in three NHS trusts. Data collection included demographics, risk factors, operative parameters and clinical outcomes with a minimum follow-up of 12 months. Primary outcome was ADM loss, while complication and implant loss were secondary outcomes. Statistical analysis was performed using SPSS.23.0.
Results: 101 patients (StratticeN=45, SurgiMendN= 37, VeritasN=19) with median age of 48.7 years (Interquartile range 41.3-54.2years) underwent 127 IBRs (StratticeN=54, SurgimendN= 45, VeritasN=30). The indications for mastectomy were breast cancer (N=79), risk reduction (N=45) and revision (N=3) respectively. ADM loss was highest with Veritas (50%,N=15) followed by Strattice (13%,N=7) and Surgimend (0%,N=0) respectively. Veritas was completely resorbed while Strattice demonstrated encapsulation in all cases of ADM loss. Implant loss rate was highest in Strattice (18.5%,N=10), followed by SurgiMend (7%,N=3) and Veritas (3%,N=1) respectively. Overall complication rate was 60% (N=60). Re-operations were performed in 40% (N=40) of reconstructions.
Conclusions: ADM use is associated with higher complication and ADM loss rate than previously reported. This supports drive towards "no innovation without evaluation".

P183
CAN WE PLAN SURGERY BASED ON MRI RESPONSE TO NEO-ADJUVANT CHEMOTHERAPY IN BREAST CANCER?

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Introduction: Breast MRI has been used to monitor tumour size after neoadjuvant chemotherapy (NAC). Early prediction of outcome and tumour response can guide the extent of surgery and optimise treatment regimens. This study investigates the concordance between MRI findings and final pathology following NAC in breast cancer.
Methods: Patients undergoing NAC between December 2009 and February 2014 were retrospectively identified. Both early and locally advanced cancers were included and pre-treatment tumour size ranged from 1.6 – 8.6cm. Post-NAC MRI of the breast was correlated with residual disease on final pathology (within 5mm).
Results: 55 patients were identified to be included (mean age 54.3 years). Following NAC, 13 patients had Complete Pathological Response (CPR). MRI correctly predicted this response in 9/13 patients (69%). In the 4 patients MRI response was inaccurate, the tumours were of lobular subtype. 36 patients had a Partial Pathological Response (PPR). MRI also correctly predicted residual tumour size in 25/36 patients (69%). MRI underestimated tumour size in 7/36 patients and overestimated tumour size in 4/36 patients. 6 patients had no response. MRI correctly predicted tumour size in 5/6 patients (83%). Overall, MRI was able to accurately predict residual tumour size in 38/55 patients (69%).
Conclusions: In patients undergoing NAC, radiological response accurately predicts pathological response in nearly 70% of cases. This makes MRI a good tool for surgical planning and decision making regarding breast conservation surgery but patients should be made aware of the risks of subsequent surgery.

P184
PRE-PECTORAL IMPLANT-BASED IMMEDIATE BREAST RECONSTRUCTION WITH BRAXON PORCINE ACELLULAR DERMAL MATRIX: IS IT SAFE WITH RADIOTHERAPY?

Jayne Sewell, Anita Sharma, Lina Ficken, Sisse Olsen, Rachel Tillett, Douglas Ferguson, Charlotte Ives, David Oliver. *Royal Devon and Exeter, Exeter, United Kingdom*;

Introduction: The novel pre-pectoral approach to implant-based reconstruction could improve post-operative pain, shoulder functionality and rate of recovery when compared to the sub-muscular approach. Our questions are: What are the associated complications? Is the reconstruction safe with adjuvant radiotherapy?
Methods: Patients were included in this retrospective cohort study if they had had a Braxon ADM pre-pectoral implant-based reconstruction in the last 13 months at the Royal Devon and Exeter hospital. There were no exclusion criteria.
Results: Twenty-one female patients, 33 to 78 years, underwent Braxon pre-pectoral implant-based reconstruction: three bilateral procedures; 18 unilateral procedures. The length of stay for unilateral or bilateral Braxon procedures was between zero and two nights, with four cases requiring an in-patient stay of less than 24 hours.
Three patients underwent re-operations for early complications of haematoma, nipple skin necrosis and wound dehiscence. There was no implant loss but nipple areolar complex necrosis resulted in implant exchange and delayed adjuvant chemotherapy. Five patients were treated non-operatively for seroma (1), skin necrosis (1), erythema (1) and red breast syndrome (2).
Radiotherapy can lead to an increased frequency of complications in reconstructed breasts. In our cohort, four underwent radiotherapy: two patients had no complications; one patient had asymmetry at follow-up that may require further surgery; one patient had wound dehiscence before radiotherapy, however had no further complications.
Conclusion: Data from this cohort demonstrates pre-pectoral implant-based reconstruction with Braxon is safe and effective. It provides low complication rates even with radiotherapy and can be a day-case procedure.

P185
ONE-STOP BREAST CLINIC WAITING-TIME REDUCTION– A QUALITY IMPROVEMENT PROJECT (QIP)

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Introduction: One-stop breast clinics are an integral part of NHS breast services. Patients are assessed by a multidisciplinary team and they spend

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varying amount of time in clinics during the assessment process. A QIP was undertaken to reduce the time patients' spent in these clinics. The aim of the project was to reduce the number of patients waiting for more than 2 hours in breast clinic.
Method: Real-time data of patient journey in one-stop breast clinics were collected. The baseline data was then analysed using QIP tools like PDSA (Plan/Do/Study/Act)/Spaghetti chart. The analysis helped to identify areas of improvement and goal setting.
Results:

- Prior to QIP, all patients were initially assessed by breast clinicians followed by radiology assessment then reviewed by breast clinicians for conveying the outcome.
- QIP tools identified that the majority patients waited after the radiology assessment for clinician's review which contributed to the increased overall waiting time in the clinics.
- Team meeting with breast unit members including educational events were conducted prior to implementation of changes.
- After QIP, patients with normal/benign imaging findings were conveyed of the results by radiologists or other health care professionals rather than waiting for review by breast clinicians.
- This QIP resulted in 60% reduction in the number of patients waiting for more than 2 hours in one-stop breast clinic.

Conclusion: QIP tools and principles are increasingly used to improve patient care. This project shows how it helped in reducing patient waiting time in one-stop breast clinic.

P186
MAGSEED FOR WIDE LOCAL EXCISION SURGERY

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Introduction: Wire guided wide local excision surgery has inherent problems with wire migration, scheduling and technical difficulties, particularly in the larger breast. Following a feasibility study in our unit of using a Magnetic seed for localization of breast cancers in women having mastectomy, a CE mark was awarded for Magseed to be used for Wide Local Excision surgery.
Methods: From November 2017 to the present, following Trust Approval, we have been using Magseed for localization for wide local excision surgery. Patients are given an information leaflet about the device, consented for receiving a novel device and our outcomes have been prospectively collected. Qualitative data has been collected on surgeon and radiology experience with each use of the device.
Results: Twenty lesions have been removed using Magseed to date. 100% of breast lesions have had the Magseed placed within the target lesion and all targeted lesions have been successfully removed. 100% of lesions have been detectable using the Magnetometer in all breast sizes. Qualitative feedback from four surgeons and three radiologists who have used the device have felt that the localization technique is easier and that the surgery was made easier compared to a wire localization.
Conclusions: Early experience with Magseed for wide local excision surgery is that it is easy for radiologists to accurately place, and that both radiologists and surgeons prefer its use over wires. Surgery is easier to perform. We will continue to collect our outcome data to share our early observations, including margin width, as our experience increases.

P187
MODERN AXILLARY MANAGEMENT IS MORE FOCUSED AND LESS INVASIVE

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Background: The Z0011 trial concluded that Axillary Lymph Node Dissection (ALND) could be omitted in selected breast cancer patients with a positive sentinel lymph node biopsy (SLNB). These results have led to a change in the surgical management of the axilla in breast cancer. The aim of this study is to determine the impact of Z0011 on axillary management of breast cancer at our centre.
Methods: Data was collected on consecutive breast cancer patients who underwent breast cancer surgery including an axillary procedure from 2004 to 2017. 2628 consecutive patients were included. Patients were divided into pre Z0011 (surgery before 2012, n=1724) and post Z0011 (surgery after 2012, n=896). Surgical practice was compared between groups with respect to axillary surgery.
Results: Mean age at diagnosis was 57.3 (SD 12). 12.5% of patients were stage 0, 34.3% were stage 1, 38.0% stage 2, 15.2% stage 3, 2.8% stage 4 at diagnosis. 70% were ductal, 11.2% lobular and 18% were other subtypes. SLND was performed on an equivalent rate pre and post Z0011 (73.5% vs. 73.9%), as was ALND (25.5% vs. 25.7%). Completion (c) ALND in patients with limited (1-2) positive SLN was performed less frequently post Z0011(n=137) vs. preZ011 (n=306) (43% vs. 75%, $p<0.0001$). Significantly more sentinel lymph nodes (SLNs) were taken at each SLND post Z0011 (mean 3.65 vs. 3.12, $p<0.0001$)
Conclusions: The recommendations from Z0011 have been adopted into clinical practice, with significantly fewer node positive patients undergoing ALND and an increase in the number of SLNs taken.

P188
THE EFFECT OF HUMAN FACTOR TRAINING ON BREAST CANCER CARE

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Introduction: Preventable significant and fatal errors due to human factors (HF) have necessitated further studies within the healthcare. 'Human factors' as a term involves environmental, organisational and work, and human and personal characteristics that affect safety and work performance and may result in active failures that can be seen practically as slips, errors, or procedural mistakes. Most studies have focused on Anaesthesia and Accident and Emergency Departments, while cancer care has not been looked at from the non-technical skills point of view. This study aims to assess the impact of HF training commencing in 2013 on breast cancer care.
Methods: As suggested by evaluation in of HF training in other industry and health care areas, the number and nature of incidents (including delayed cancer diagnosis) reported in the breast service in 2014, 2015 and 2016 were assessed. In addition, a staff survey was conducted.
Results: 39 incidents were reported in 2014, 41 in 2015 and 44 in 2016. There were 3 reports of delayed diagnosis in 2014, 4 in 2015 and none in 2016. Qualitative effects were considered.
Conclusion: The link is well established between HF training and reduction in human error causing fatal accidents in the aviation industry. Adaption and uptake in health care has been focused in areas such as theatre and emergency teams. However, HF training may reduce human error and improve team performance in the critical process of breast cancer diagnosis thus reducing morbidity, mortality and medico-legal risk.

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SHARED DECISION MAKING WITHIN BREAST SURGERY: ASSESSING CONSENT USING THE SDM-Q-9 AND COLLABORATE TOOLS

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Introduction: Shared decision making (SDM) is increasingly being prioritised and is essential for patient-centred care. Our aim was to audit patient satisfaction of the consent process against the Kings Fund guidelines on SDM and RCS guidelines on consent.
Method: A prospective audit (approval number: SPS 009) was conducted over 2 months (November - December 2017) within breast surgery in a high-volume London teaching-hospital. Data was collected from 50 patients using two validated questionnaires based on the SDM-Q-9 and collaboRATE tools, scored using 5 and 10-point likert-scales respectively. Additional data was obtained from the consent form and CERNER database.

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Results: 50 patients were consented by 8 individual surgeons, either consultant (14/50), registrar (24/50) or core trainee (12/50) with 41/50 (82%) consented on the day of surgery. The highest patient satisfaction scores were identified for the statements: "My doctor made it clear that a decision needs to be made" (4% did not agree) and "My doctor explained precisely the advantages and disadvantages of the treatment options" (10% did not agree). Conversely, the lowest satisfaction was identified for "My doctor and I selected a treatment option together" (30% did not agree) and "My doctor and I thoroughly weighed the different treatment options" (28% did not agree).

Conclusion: Supporting evidence published from other specialties, our data for breast surgery demonstrates that although informed consent is typically performed well, giving comprehensive treatment options and taking into account patient preference requires improvement. One strategy is to move from a paternalistic approach to a model that truly adopts SDM.

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