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P001. Oncoplastic breast conservation surgical techniques and postoperative complication rates – The Glasgow experience

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Introduction: Oncoplastic breast conservation surgical techniques have not been standardized and a large variety of procedures are described in the relevant literature. Tumour stage and location at diagnosis, patients' body habitus and surgeons' personal preference all influence the surgical technique of choice. In this study we analyse the current practice in three Glasgow breast units as regards operating techniques and postoperative complications.

Methods: An oncoplastic breast surgical database has been maintained prospectively in Glasgow since 2009 (patients operated before 2009 were entered retrospectively). A descriptive analysis of oncoplastic surgical techniques and postoperative complications was carried out.

Results: 160 patients were treated with oncoplastic conservation between July 2005 and November 2012, although this analysis included 99 patients with a median BMI of 29 [20-58]. Mean radiological tumour size was 2.8 cm [0.5-7]. Volume displacement techniques were applied in 84 (Wise pattern reduction:54; Benelli:19; tennis racquet:5; Grisotti:2; LeJour:2; melon slice:2), while volume replacements were done in 15 patients (thoracoepigastric flap:10; matrix rotation:5). Synchronous contralateral surgery was carried out in 46 patients. No postoperative complication was reported in 52 patients, while 11 patients had delayed wound healing and hematoma, respectively. Eight patients had fat necrosis and three developed seroma requiring aspiration. Five patients developed cellulitis. Nine patients needed reoperation for complications altogether. Analysis of the full cohort will follow.

Conclusions: Vast majority of oncoplastic surgical techniques applied is volume displacement, which is probably due to the relatively high BMI of patients in this geographical area. A prospective comparison of complication rates with routine breast reduction surgery may be considered.

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P002. Implications of omitting axillary clearance in positive sentinel nodes: a retrospective application of the ACOSOG Z0011 and POSNOC trials

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Introduction: Management of tumour positive SLNs is changing rapidly after the publication of Z0011 trial which showed that completion axillary node clearance can be omitted in patients with T1 and T2 tumours and ≤2 tumour positive SLNs without compromising outcomes. However in the UK, there is an ongoing debate, whether to embrace a change in practice or to set up a new trial: POSNOC. The aim of this study is to evaluate and forecast the impact of implementing Z0011 and POSNOC trials to our breast cancer patients.

Method: 153 patients with tumour positive SLNs who underwent cALND from October 2006-April 2012 were identified. Patients who underwent BCS and suitable for tangential-field whole-breast radiotherapy for tumours ≤ 5 cm in size, ≤ 2 tumour positive SLNs with no extranodal spread and no neo-adjuvant chemotherapy were analyzed.

Results: 86/153 (56%) had BCS and 64/86 (74.4%) and 85/153 (55%) met the criteria of Z0011 and POSNOC trials respectively. In our cohort more patients have larger size of tumours, higher grade, higher incidence of LVI and fewer incidences of micrometastases in the SLNs than Z0011 cohort. The incidence of further non-SLNs metastases and ≥ 4 total number of tumour positive ALNs (SLNs+NSLNs) was 20/64 patients (31.3%) and 10/64 (15.6 %) on applying Z0011 criteria, and 34/85 (40%) and 16/85 (18.8%) on applying POSNOC criteria (which excluded micrometastases).

Conclusion: Our patient's population is significantly different from Z0011 population. Completion ALND could have been avoided in a significant proportion of patients by adopting Z0011 and POSNOC trials. However, information regarding ≥4 positive nodes would have been lost in a significant proportion of patients (15.6 % vs. 18.8 % in Z0011 and POSNOC trials) resulting in denial of the benefits of SCF radiotherapy.

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P003. Burden of tumour positive axillary nodes after ALND in FNAC positive patients vs. ALND after tumour positive SLNB

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Introduction: Breast cancer patients who had tumour positive axillary nodes diagnosed by pre-operative ultrasound-directed fine needle aspiration cytology ± core biopsy of abnormal or suspicious axillary nodes were considered to harbour higher burden of axillary disease and proceed directly to axillary node dissection avoiding SLNB compared to clinically node negative patients who would have ALND for tumour positive SLNB. Literature search did not reveal any study comparing axillary burden of the disease in these two groups of patients. Aim is to compare the axillary burden of disease in both groups.

Method: Patients with tumour positive ALNs diagnosed by pre-operative ultrasound-directed fine needle aspiration cytology/core biopsy of abnormal axillary nodes and tumour positive SLNB who underwent completion ALND between November 2011-November 2012 were identified. Patients and tumours related factors were analyzed.

Results: Patients in both groups were different; burden of axillary disease is shown below:

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Pathological variables	FNAC + and ANC	SLN+ and ANC
Age y(median, range)	63y (46-93)	53y (42-85)
Tumour size(cm)	3.5 cm(1.7-9 cm)	3 cm(0.3-8)
Lymphovascular invasion(LVI)	21/38(55%)	12/35(34%)
Grade III tumours	21/38(55%)	8/35(23%)
Proportion of +ive ALNs/total ALNs	Median=0.303 (0.153,0.037-1)	Median=0.227 (0.1,0.04-1)
$\geq$ 4 total positive ALNs	15/38(39.5%)	9/35(25.7%)
$\leq$ 2 tumour +ive ALNs	19/38(50%)	25/35(71.4%)
Tumour positive ALNs	Median=2(5.3,1-23)	2(3.4,1-18)
Number of ALNs excised in ALND	19(7-30)	15(8-24)

Conclusion: ALND after positive FNAC is associated with higher burden of tumour positive ALNs. This fact should be kept in mind before proceeding for reconstructive procedures in such patients to avoid post-mastectomy chest wall and SCF radiotherapy.

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P004. Acelluar dermal matrices in immediate implant based breast reconstruction: Our experience of complication rates using strattice and biodesign

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Introduction: The introduction of biologic materials in implant based breast reconstruction has been postulated to have numerous health and economic benefits.

There are concerns about the technique including potentially higher rates of implant explantation, seromas and skin loss. There is some evidence that the risks may be decreased with greater experience and with specific biologic materials.

In our institution we have used two products – Strattice and Biodesign. Our aim was to look at our experience as an indicator to see if there is any difference between products.

Methods: A retrospective case analysis of patients who underwent ADM assisted immediate implant based reconstruction between August 2009 and October 2012 was undertaken. Information regarding patient demographics, including risk factors, and complications were obtained.

The operations were performed by surgeons with proven low explantation rates (<5%) using other implant based reconstruction techniques.

Results: 15 implant based reconstructions were carried out using Strattice. Of these, 5 patients developed complications with 4 requiring implant removals.

15 implant based reconstruction procedures using Biodesign. Of these, 5 patients developed complications with 3 requiring removal of implants.

Conclusions: Even with such small numbers our results suggest comparable complication and explantation rates for the two biologic materials, and the same complications are seen by all surgeons. The high explantation rate is of concern.

The study highlights the need for good prospective data of this new technique.

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P005. Can a pre-operative MRI predict the pathologic response of breast cancer to neo-adjuvant chemotherapy?

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Background: Neo-adjuvant chemotherapy is being increasingly used for breast cancer. MRI is used for assessing tumour response. Literature on correlation of pathologic response and MRI response is scanty.

Aim: Can a pre-operative MRI predict pathologic response of breast cancer to neo-adjuvant chemotherapy?

Methods: A consecutive series of patients with invasive breast cancer underwent neo-adjuvant chemotherapy (2008-2012). All patients had breast MRI prior to commencing chemotherapy and before definitive surgery. In this study radiological response is correlated with pathological response.

Results: 60 women had neo-adjuvant chemotherapy after MRI breast; median age 48 yrs. The tumour characteristics were; median tumour size 35mm, 34 (57%) Grade 3, 20 (33%) LVI $+^{ve}$, 22 (36%) ER $-^{ve}$, 37 (62%) PR $-^{ve}$, 40 (66%) HER2 $-^{ve.}$ Taxotere based chemotherapy administered to 37 (61%) and Docitaxol to 16 (26%) pts. Good / complete response reported on MRI for 30 (50%). 27 (45%) women had breast conservation. 32 (53%) had axillary dissection. No invasive cancer was found in specimen of 10 (17%) pts. Primary tumour was down- staged in 29 (48%). MRI correctly predicted down-stage in pathology size of tumour $p < 0.049$ Pearson Chi square test (CI; 0.072 - 0.089). Good / complete response to neo-adjuvant chemotherapy on MRI was significantly associated with compete pathological response $p \leq 0.002$ (95% CI; 0.001 - 0.003 Monte Carlo test).

Conclusions: In our experience good or complete response on MRI is associated with complete pathological response (absence of invasive cancer). MRI is useful to plan surgery after neo-adjuvant chemotherapy.

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P006. Is Nipple discharge cytology useful for detecting cancer?

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Introduction: Nipple discharge is common and is the presenting symptom in 5 - 7.4%[1] of referrals to breast clinics. Previous work has suggested that nipple smear cytology may not be useful in discriminating malignant from benign causes of nipple discharge.[2-4]

Methods: All patients' clinical pathways who had nipple discharge smear cytology between 1 Jan 2010 to 31 Dec 2011 were reviewed by way of a prospectively collected database (Dendrite ®). Patients' subsequent surgery and subsequent histology were reviewed.

Results: 196 nipple smear cytology were sent from 162 patients, mean age 48 years (range 13-93) with 12 malignancies were identified. There were four Invasive Ductal Carcinomata and 8 Ductal Carcinoma in Situ (DCIS) detected.

From the 12 malignancies, the nipple smear was suspicious or highly suspicious for malignancy and atypical in 1. In none of these 5 cases was this the sole abnormality. In two cases further tests were suggested; 3 benign and 2 acellular.

From the 150 non-malignant, most had normal or insufficient cells for diagnosis. In two of the cases (1.3%, 2/150) the cytology suggested frank or suspicious for malignancy.

Classifying pathology reports suggesting further investigation as a positive test, then the PPV for nipple smear in detecting malignancy is 0.75, Negative predictive value of 0.96, sensitivity of 0.5, specificity of 0.987

Conclusion: Nipple smear was never the sole abnormality in patients subsequently shown to have malignancy. Nipple fluid cytology rarely adds value for the investigation of breast symptoms and should be used in selected cases only.

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P007. BCL-2 and P53 Expression and their impact on survival in breast cancer

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Aims: The anti-apoptotic proto-oncogene Bcl-2 and pro-apoptotic tumour suppressor gene p53 are both expressed in breast cancer. In this study, the expressions of Bcl-2 and p53 have been evaluated to assess their impact on disease free and overall survival in breast cancer (DFS and OS).

Methods: Formalin fixed paraffin embedded tumour blocks from a group of patients who had breast cancer surgery in 1996 were used. Follow-up (9 years) data was collected using the hospital breast cancer database and patient notes. Bcl-2 and p53 expression were evaluated by Immunohistochemistry (Envision TC). The Quick score method was used to assess p53 expression. The expression of bcl-2 was scored as negative, moderately and strongly positive.

Results: There were 148 patients. The expression of p53 and bcl-2 were inversely correlated ($P<0.0001$, $\chi^2 = 39.40$) with strong correlation between high-grade tumours and p53 expression ($p=0.0030$, $\chi^2=34.40$). Bcl-2 expression was absent in 32.4% of cancers. Patients with strong Bcl-2 expression had significantly better DFS and OS than those with Bcl-2 negative tumours ($P=0.003$, $P= 0.026$). Women with cancers negative for p53 expression had a longer survival as compared to those with strongly positive tumours (75% *vs.* 58% at 5 years, P=non-significant).

Conclusion: This study has shown that bcl-2 expression is associated with better survival in human breast cancer despite its known anti-apoptotic activity. The over-expression of nuclear p53 and its association with high-grade tumours and shorter 5-year survival is in keeping with its reduced tumour suppression activity.

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P008. Androgen receptor and Bcl-2 expression in breast cancer: Survival and prognostic association

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Aims: To evaluate Androgen receptor (AR) and anti-apoptotic proto-oncogene bcl-2 expression, influence on survival and correlation with established prognostic markers including oestrogen receptor α (ERα)

Methods: 148 fixed paraffin embedded tumour blocks with 9.5 years follow-up were selected. Expression. was evaluated by Immunohistochemistry. Disease free and overall survival (DFS and OS) was established using Kaplan−Meier graph.

Results: 46.6% of tumours were positive for AR, 14.9% strongly positive. 67.6% of tumours were positive for bcl-2, 46.6% strongly positive. bcl-2 expression showed a strong correlation with ERα ($p=0.0001$ $\chi^2=41.48$), low grade ($P=0.0001$, $\chi^2=38.31$) and smaller tumour size ($p=0.002$, $\chi^2=20.7$). There was no association with lymph node status. AR expression was positively correlated with ERα only ($p=0.0002$, $\chi^2=19.21$). Patients with strong bcl-2 expression had better DFS and OS than those with Bcl-2 negative tumours ($P=0.003$, $p=0.026$). Similarly, those with strong AR expression showed better OS than those with weakly positive or negative tumours ($p=0.03$, $p=0.04$).There was a statistically significant survival benefit in AR / bcl-2 strongly positive subgroup compared to AR weak-moderate/ bcl-2 strongly positive subset ($p<0.05$, $\chi^2= 11.28$). They however matched closely in ER, lymph node stage and tumour grade suggesting other contributing factor/s for the improved outcome in the former subgroup.

Conclusion: AR and bcl-2 expression is associated with ERα. bcl-2 expression is associated with low grade and smaller tumour size. High expression of AR and bcl-2 is associated with better survival, supporting the need for development of a comprehensive panel of hormonal receptors, allowing better stratification of treatment.

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P009. Design principles of an advanced, timeline and episode structured data system for the study of outcomes in 13,000+ breast cancer patients treated in one unit over four decades

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Introduction: The development of a temporally structured data system to provide "whole of life" oversight of breast cancer treatment inputs, pathological parameters, clinical episodes and final outcomes is a significant conceptual, design and technical challenge. There are no commercial systems yet available which fulfil the requirement.

Methodology: Since 2010, we have created a range of software tools within the University Hospital clinical data environment with significant enhancements to the electronic patient record. Collectively, these tools are integrated as an Advanced Breast Cancer Data System. Key design principles included simplicity and cost effectiveness of data entry; automatic linkage to all relevant and usable data from local and national feeds; scalability and adaptability; graphical richness to aid data presentation, comprehension and analysis; flexibility to absorb data from a range of sources, and accurate recording of the cause of death, where relevant.

Results: 13,000 records, including 4500+ of now deceased patients, have so far been integrated into the system, representing a continuity of local care since 1979. Linkage of each patient record to all relevant available documentation and laboratory results has permitted a highly efficient process of manual and semi-automated data uploading, validation and cross-referencing. Data is exportable in a variety of original graphical timeline formats and to conventional statistical systems.

Conclusions: The development of clinically informative software by a small and focussed team of surgical and IT specialists on a progressive "design, test and adjust" basis has secured a sophisticated breast cancer data system for MDT Decision Assistance with further development potential.

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P010. The use of the internet as a resource by breast cancer patients

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Introduction: The internet has become a powerful source of information for breast cancer patients. The quality of the information available is variable. The aim of this study was to identify patients' information needs at different stages of their treatment pathways.

Methods: A random sample of women (n=100) attending a breast cancer clinic in a district general hospital were asked to complete a questionnaire at a follow up visit. The questionnaire identified internet availability / use and determined the sources of information they used.

Results: Overall, 97 questionnaires were completed. 65% of women had access to the internet but only 20% used it on daily basis. Breast cancer related information was accessed before and after seeing their GP by 70% and 55% of patients, respectively. 42% of patients used the internet after being given their diagnosis by a hospital doctor. Over 90% of patients received enough information before commencing treatment. 90% of women said they have understood their management plan. Information about breast cancer available from GP surgeries was of less importance to patients.

Conclusion: For the majority of women with breast cancer, the internet is an important source of information. They mainly search for information before seeing a breast cancer specialist. The combination of an internet

search performed by the patient and information provided by the hospital satisfies most woman.

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P011. A near infra red emitting fluorescent nanoparticle for sentinel lymph node biopsy

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Background: Sentinel Lymph Node Biopsy (SLNB) is a standard procedure in breast cancer surgery. The current tracers for SLNB including the blue dye and radiocolloid, have various limitations like anaphylactic reaction to the dye and exposure of radioactivity to both patients and staff. Quantum dots (QDs) are fluorescent nanoparticles (2-10nm in diameter), with unique photophysical properties like enhanced photostability and size tunable emission wavelengths, that can potentially replace the current tracers for SLNB. QDs emitting in the Near Infra Red (NIR) range of the electromagnetic spectrum can be tracked in deep tissues as biological tissues are transparent to NIR wavelengths. We have developed Near Infra Red emitting Quantum Dots (NIR QDs) as alternative probes for SLNB and set up a live NIR imaging system to track them in deep tissues.

Materials and Methods: NIR emitting QDs based on CdTeHg were synthesized by a one pot aqueous method and characterized using Transmission Electron Microscopy (TEM), UV-Vis spectrometry and photoluminescence studies. 100μL of QDs (1mg/mL) were co-injected with blue dye into the hind legs of rat models (n=4) and compared to controls (n=4) which were injected with blue dye only. QDs were tracked using an in house set up of a live NIR imaging system.

Results: NIR QDs had a core diameter of 7nm on TEM and emitted at 860nm upon excitation with a 630nm light source. Within 3 minutes of an intradermal injection QDs entered the lymphatic tracts. The lymphatics converged to the groin and a small surgical incision at this site revealed the underlying sentinel lymph node with minimal dissection.

Conclusion: NIR emitting QDs can be used for accurate localisation of the SLN prior to surgical incision, making this an even more minimally invasive procedure and possibly an office based procedure in the future. The nanosize, surface chemistry and deep tissue visibility of these novel nanoprobes allow relentless possibilities for in vitro and in vivo molecular and cellular imaging. NIR QDs can be conjugated to biomolecules for cancer localisation, detection of micrometastasis and image guided targeted drug delivery of chemotherapeutic agents. Further studies to investigate their in vivo biodistribution are in progress to take this technology one step closer to clinical application.

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P012. Learning curve in immediate breast reconstruction with Strattice acellular dermal matrix

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Introduction: In the last few years, the use of acellular dermal matrices (ADM) in breast reconstruction has increased enormously. Strattice is an ADM derived from porcine skin. It allows implant-based immediate breast reconstruction to be performed as a one-stage technique. The initial results are encouraging. With the introduction of any new technique, there is an associated learning curve involved. Our aim was to assess the surgeon's learning curve using Strattice for immediate breast reconstruction.

Methods: A consecutive series of 67 patients who had bilateral and unilateral immediate breast reconstruction with Strattice between February 2009 and November 2011, were included in the study. Data on demographics, comorbidities, smoking history, and complications were collected. Operation times were collected from the operating room management system. The patients undergoing bilateral and unilateral reconstruction were analysed separately. The trends over time were assessed.

Results: Forty patients had unilateral and 27 had bilateral reconstruction. The average age was 46.8 years. The average time for unilateral reconstruction 2.043hrs (ranging from 1.24hr-3.34hrs) and for bilateral operations was 3.186hrs (ranging from 2.08hrs-4.30hrs).

Learning curve: The 67 patients were labelled chronologically regardless of the type of operation. There was a correlation between the surgical order (i.e. performed later in the series) and shorter operation times in both groups (Correlation Coefficient for unilateral −0.468 and bilateral -0.347). For unilateral patients, this correlation was statistically significant (P-value=0.002).

No significant correlation was noted in either major or minor complication rates with the surgical order. Five (5.3%) implants were lost out of 94 procedures. Two of whom had received radiotherapy.

Conclusion: Strattice ADM has been added to the list of options available for immediate breast reconstruction in recent years. There is always a learning curve with the introduction of any new technique. Our study has demonstrated a significantly shorter operative time following a learning curve but no difference in the complication rate.

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P013. Postoperative tamoxifen for ductal carcinoma in situ: A systematic review

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Background: Ductal carcinoma in situ (DCIS) is a non-invasive carcinoma of the breast. The treatment of DCIS involves surgery with or without radiotherapy to prevent recurrent DCIS and invasive carcinoma. However, there is clinical uncertainty as to whether postoperative hormonal treatment (tamoxifen) confers benefit in overall survival and incidence of carcinoma.

Aim: To undertake a Cochrane systematic review to assess the beneficial and adverse effects of postoperative tamoxifen for DCIS.

Methods: Randomised controlled trials (RCTs) comparing postoperative tamoxifen for DCIS (regardless of oestrogen receptor status), with or without adjuvant radiotherapy were identified. Trial quality was assessed and data including recurrent DCIS and invasive cancer occurrence extracted. Statistical analyses were performed using the fixed effect model and the results were expressed as relative risks (RRs) or hazard ratios (HRs) with 95% confidence intervals (CIs).

Results: Two RCTs involving 3375 women were identified. Postoperative tamoxifen for DCIS reduced recurrence of both ipsilateral (HR 0.75; 95% CI 0.61-0.92) and contralateral DCIS (RR 0.50; 95% CI 0.28-0.87). There was a trend towards decreased ipsilateral invasive cancer (HR 0.79; 95% CI 0.62-1.01) and reduced contralateral invasive cancer (RR 0.57; 95% CI 0.39-0.83). The number needed to treat in order for tamoxifen to have a protective effect against all breast events is 15. There was no difference in all-cause mortality (RR 1.11; 95% CI 0.89-1.39).

Conclusion: While postoperative tamoxifen for DCIS (with or without adjuvant radiotherapy) reduced the risk of recurrent DCIS, it did not reduce the risk of overall mortality.

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P014. Breast cancer surgery without suction drainage: The impact of adopting a 'no drains' policy on symptomatic seroma formation rates

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Aim: To determine the effect of a 'no drains' policy on seroma formation and other complications in women undergoing breast cancer surgery.

Materials and methods: Before May 2010 drains were routinely used in our unit following mastectomy ± axillary surgery and axillary lymph node dissection (ALND) ± wide local excision (WLE). Since then, a 'no drains' policy has been adopted. Data was collected prospectively between 01/12/06 − 30/11/11 to compare symptomatic seroma, wound infection, re-admission and re-operation rates in women treated with a drain and those without.

Results: 596 women were included in the study. 247 women underwent modified radical mastectomy (MRM) and ALND (Group 1), 184 MRM ± sentinel lymph node biopsy (SLNB) / axillary node sampling (ANS) (Group 2) and 165 ALND ± WLE (Group 3).

In group 1, 149 had a drain, in group 2, 62, and in group 3, 50.

Within each group, the presence or absence of a drain did not significantly affect the rate of symptomatic seroma, number of aspirations performed, wound infection rates or the incidence of complications requiring re-admission. Having a drain was associated with lower volumes of seroma aspirated. In all three groups, the presence of a drain was associated with a longer hospital stay ($p<0.001$).

Conclusion: This study suggests that MRM ± ALND / SLNB / ANS and ALND ± WLE can be performed without the use of suction drains without increasing seroma formation and other complication rates. Adopting a 'no-drains' policy may also contribute to earlier hospital discharge.

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P015. For one pathological node identified on staging, do we still need to clear the axilla?

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Introduction: Management of primary breast cancer currently involves pre-operative staging of the axilla with ultrasound(USS). Those patients with a pathological lymph node visualised at USS undergo axillary node clearance (ANC). The aim of this study was to correlate the number of nodes identified on USS with the number identified at ANC, hence raising the question; can ANC be avoided if only one node is identified pre-operatively?

Methods: All patients who underwent primary axillary clearance following abnormal axillary USS between March 2011 and December 2012 were identified using medical coding. USS and pathology results were retrieved using the online reports system 'ICE'. USS findings of pathological nodes identified were compared with number of positive nodes at pathology.

Results: Ninety patients within an age range of 32-86 underwent a primary ANC in the period above. Sixty-six patients (73.3%) had two or fewer nodes identified on USS. Twenty-four patients (26.7%) had 3 or more nodes at USS.

Of those with two or less nodes on USS, 56.1% (n=37) had two or less nodes at ANC. The remaining 43.9% (n=29) had three or more positive nodes.

Of those with more than three nodes on USS, 41.7%(n=10) had fewer than 2 nodes on ANC. 58.3% (n=14) had greater than three positive nodes.

Conclusion: With current methods, axillary USS is unable to predict, with confidence, a low burden of axillary metastasis when two or fewer pathological nodes are identified with pre-operative axillary USS. These patients will still need completion ANC.

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P016. Does the use of blue dye add unnecessary risk in axillary sentinel lymph node biopsy?

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Background: Sentinel lymph node biopsy (SLNB) is now the accepted procedure for staging of the axilla in patients with early breast cancer. The standard method employs a dual dye technique with blue dye combined with radioisotope-labelled nanocolloid. Severe allergic reactions to blue dye do occur and patients can be distressed by blue skin staining which can be permanent. If the use of blue dye does not improve localisation rates its continued use would be difficult to justify.

Methods: Using a prospectively maintained database, non-randomised, consecutive newly diagnosed patients with clinically and radiologically node negative breast cancer were assessed. One cohort underwent radioisotope alone localisation for SLNB, the other having standard dual technique localisation. Sentinel node localisation, number of sentinel nodes retrieved, final primary tumour pathology, nodal status and adverse reactions were evaluated.

Results: 407 sentinel lymph node biopsies were performed in 401 patients. Of these 180 were performed using radiolabelled nanocolloid alone and 227 were performed using the standard dual dye technique. Sentinel node localisation rates were equally high (>98%) in both groups. Median number of sentinel nodes retrieved in the radioisotope group was 1, compared to 2 in the dual technique group ($p<0.001$). Tumour biology and final axillary nodal status was identical for both groups. Two patients encountered adverse reactions to blue dye (0.9%).

Conclusion: Radioisotope alone provides accurate localisation in SLNB. Reduced axillary sentinel nodal dissection may result in reduced arm morbidity but, more importantly, potential adverse reactions to blue dye can be completely avoided.

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P017. Primary axillary clearance based on positive cytology from indeterminate appearing nodes on ultrasound. Could surgery be over treating the axilla?

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Background: Routine Axillary Ultrasound (AUSS) identifies many patients pre-operatively with metastatic nodes. Current practice for such cases is to proceed direct to axillary clearance (ANC). However, despite controversy about ANC need for sentinel lymph node biopsy (SLNB) positive patients, ANC is performed based on positive cytology from abnormal nodes on AUSS without considering extent of involvement. We assessed for correlation between nodal burden and reported AUSS scores.

Methods: All invasive breast cancer cases underwent AUSS and were scored by consultant radiologists (N2-normal, N3-indeterminate, N4-suspicious, N5-replaced). Fine needle aspiration (FNA) cytology of all N3, N4 & N5 nodes was performed. Final nodal burden on ANC was compared with AUSS score.

Results: Between June 2011 to Aug 2012, 439 cases were studied, 64 having metastatic nodes identified pre-operatively proceeding direct to ANC. 293 cases had normal nodes on AUSS, 84 cases had N3 nodes, 12 identified with metastatic nodes pre-operatively, 28 cases had N4 nodes, 18 identified with metastases pre-operatively and 34 cases had N5 nodes, all being confirmed metastatic pre-operatively. Nodal involvement on ANC according to USS score was:

Nodes involved	USS score N3 (n=12)	USS score N4 (n=18)	USS score N5 (n=34)
0 nodes	0	0	2*-A
1-3 nodes (of which single involved node)	8 (5)	9 (2)	14 (4)
4-9 nodes	3	7	11
≥ 10 nodes	1	2	7

*A −Neo-adjuvant therapy with complete pathological response of axillary nodes

64 of 375 patients having SLNB were found to have axillary metastases. 47 scored N2, 16 scored N3 & 1 scored N4 on AUSS. 13 of 45 cases that had ANC after SLNB had ≥4 metastatic nodes.

Conclusion: 58% of abnormal nodes on AUSS are scored N3, the majority of which have ≤3 nodes involved. These patients may be better served by SLNB, potentially avoiding unnecessary morbidity from ANC and reducing FNA workload.

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P018. Impact of age extension to include 47 - 49 year old women on the workload of the surgical department of a single breast cancer screening unit − The first non randomized experience in UK

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Introduction: The aim of this study was to assess the impact on the surgical unit of the first year of non-randomized invitations to 47 − 49 year old women for breast screening.

Methods: All women undergoing surgery in the age group 47 − 49 years, referred via screening were identified and the increased workload analysed.

Results: 4250 (76%) women were screened of the 5624 invited. 396 women were recalled, of whom 88 (22%) underwent a core biopsy. 32 patients required surgical intervention.

20 patients (62.5%) were confirmed to have either DCIS (6 patients) or invasive malignancy (14 patients). They required 37 operative episodes; requiring 41 operations. 16 wire-guided wide-local-excisions (14 with sentinel node biopsy), 7 mastectomies (2 with sentinel node biopsy; 1 with axillary clearance), 6 margin re-excisions, 1 tissue expander insertion and removal, 3 Latissmius Dorsi with implant and 2 TRAM reconstructions. Other cases include haematoma drainage, scar revisions and nipple reconstructions. This group generated 100 NHS surgical outpatient consultations (78 breast and 22 plastic surgery).

12 patients (37.5%) underwent surgery for a B3 vacuum result; 10 underwent wire-guided and 1 ultrasound guided skin marked excision biopsy. 1 patient was treated privately. This group generated 25 NHS surgical outpatients consultations.

Conclusions: This study highlights the impact of the 47-49 year age extension within the breast screening programme on the workload of the surgical department of a UK Breast Cancer Screening Unit offering non-randomized invitations. The study will inform other surgical units of expected workload when age extension is fully implemented.

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P019. An audit of axillary clearance following positive sentinel node biopsy in patients with invasive breast cancer and the impact it has on subsequent adjuvant management

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Introduction: NICE states that axillary staging has an essential role in the management of invasive breast carcinoma but it is associated with significant complications which may affect the patient. This audit looks at the impact omitting axillary clearances has on adjuvant management planning. We will specifically consider if nodal status significantly affects subsequent adjuvant management.

Method: From a population of 97 continuous sentinel node biopsy patients we identified 20 patients who had a positive sentinel lymph node and proceeded to an axillary clearance. These patients were presented at a special audit-MDT and management plans were formed with the pre axillary clearance information. When the axillary clearance nodal status was available the case was discussed in actual MDT and results were compared.

Results: 25% (15, n=60) of management decisions were altered once the patient's nodal status was known, which affected 60% (12, n=20) of patients. This can be broken down into 20% (4) of chemotherapy decisions, 10% (2) of hormone decisions and 45% (9) of radiotherapy decisions were altered axillary clearance result was known.

Conclusion: There is greater emphasis on the need for reduced treatment related morbidity. Z0011 trial shown with its flaws in the study that in certain group of patients axillary clearance is not needed as it didn't make any difference in the outcome by omitting axillary clearance. However, omitting axillary clearance reduces the information required to fully plan the adjuvant treatment. The results of this audit show that adjuvant management planning is affected by incomplete nodal status.

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P020. Clinico-pathological differences between symptomatic and screen detected ductal carcinoma in situ

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Introduction: DCIS accounts for 20% of screen-detected cancers, but may present symptomatically. The BCCOM reports estimating approximately 5% of non-invasive breast cancers are symptomatic, but accurate evaluation of the presentation of symptomatic DCIS is needed to determine whether invasive foci or node involvement is greater.

Methods: Clinico-pathological details of a consecutive series of patients presenting to a single breast screening unit between July 2007 and December 2011, with a pre-operative histological diagnosis of DCIS, were selected from pathology and radiology reports. Data included age at and mode of presentation, pre-operative clinical and radiographical findings, final tumour histology, type of operation, size, grade and oestrogen receptor status.

Results: 388 patients had a pre-operative histological diagnosis of DCIS. 319 (82%) screen-detected (median age 59(IQR52-64)), 69 (18%) symptomatic (median age 50(IQR43-68)). At final histology 286 (74%) were pure DCIS, 69 (23%) had associated invasive cancer. 42% (29/69) of the symptomatic cases had an invasive focus at final histology versus 19% (60/319) of screen-detected ($P<0.001$). 31% (9/29) symptomatic versus 1% (6/60) of the screen-detected cases with an invasive focus had a positive sentinel node ($p<0.05$).

20% (1/5) of low-grade and 45% (28/62) of intermediate/high-grade symptomatic cases had occult invasion, compared to 2/21 (10%) low-grade, and 57/297 (19%) intermediate/high-grade screening cases.

13% (38/248) of the pure DCIS presented symptomatically. 212/248 (86%) of screen-detected pure DCIS was ER positive compared to only 26/38 (68%) of symptomatic pure DCIS.

Conclusions: Symptomatic DCIS at core biopsy frequently has an occult invasive focus, usually in intermediate/high grade cases, and is more likely node positive. Overall thirteen percent of pure DCIS presents symptomatically.

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P021. Utilisation of intra-operative surgeon-performed ultrasound in a breast unit: initial experience

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Introduction: Utilisation of intra-operative ultrasound to guide breast surgery, particularly for impalpable lesions can obviate the need for pre-operative wire or similar localisation procedures. This reduces patient inconvenience, discomfort and the cost of the additional procedure, freeing up valuable radiology resources. It can potentially render excision more accurate, not only reducing the need for re-excision but also reducing the volume of breast tissue excised by accurate placement of the lesion in the centre of the excised segment.

Methods: From March to November 2012, consecutive cases of female patients undergoing definitive surgery for breast cancer for which ultrasound localisation was utilised in the operating theatre were documented prospectively. Details recorded included patient demographics, clinical indications, full pathology details and outcomes.

Results: Fifty-one consecutive cases were recorded. Mean age was 59 years (range 33-90). Indications included localisation in impalpable, screen-detected lesions (n=27), localisation after neo-adjuvant systemic treatment, (n=9), detection of impalpable multifocal lesions (n= 9) and enhancement of accuracy for palpable lesions (n=6). The lesion was accurately localised in all cases. Forty-six patients had intra-operative specimen radiography performed (90.2%). Six patients (11.8%) required re-excision for close or involved margins; of which five were for DCIS, 4 of these having no further DCIS on re-excision. One patient had multifocal grade 1 IDC and requiring 2 re-excisions to achieve negative margins.

Conclusion: Surgeon-performed intra-operative ultrasound is feasible and safe in the context of a breast cancer unit and can potentially replace wire-guided localisation of all impalpable lesions.

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P022. One stage breast reconstruction following prophylactic mastectomy for ptotic breasts: The inferior dermal flap and implant

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Introduction: Immediate reconstruction following prophylactic mastectomy in larger ptotic breasts is difficult. Tissue expansion may often result in poor cosmetic outcomes. Autologous options may not be possible due to clinical unsuitability or patient choice. Use of the inferior dermal flap with implant achieves lower pole fullness and allows a one-stop reconstruction in the larger ptotic breast.

Methods: The inferior dermal flap and implant was performed on ten patients (20 breasts) – all for risk-reduction. Wise pattern markings were made, with the crucial measurement of distance from nipple to inframammary fold. Patients with a distance greater than 15cm would be considered for a one-stage procedure with implant. Placement of the inframammary fold incision was generally higher than the native fold as it is usual for the ptotic breast to be placed higher on the chest. This may decrease the amount of eventual dermal flap available and should be borne in mind in the pre-operative stage.

Results: Average age was 43 years (range 36-53). The average BMI was 37 (range 32-43). The distance from nipple to IMF varied from 15 cm to 26 cm. The average implant size was 533 (range 390-620). Complications were minimal with one patient experiencing delayed wound healing at the T-junction and one patient developing inferior pole erythema postoperatively that settled with antibiotics.

Conclusion: The inferior dermal flap and implant provides a one-stop reconstructive option. It is reliable, safe and maintains the breast envelope while giving excellent size, shape and symmetry in the larger ptotic patient.

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P023. Chest wall control after electrochemotherapy in elderly patients with locoregional recurrence from breast cancer after mastectomy

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Introduction: A number of breast cancer (BC) patients with chest wall recurrence (CWR) after mastectomy are not suitable for radical resection or radiotherapy, due to disease extension and previous radiation exposure. Electrochemotherapy (ECT), an electroporation-based drug delivery system, could represent a local treatment option.

Methods: Analysis of a prospectively maintained database of 60 BC patients (median 70 years, range 38-88) with unresectable CWR refractory to systemic treatments. Bleomycin-ECT (one or more cycles) was performed, under a mild general anaesthesia, following the European Standard Operating Procedures of ECT. Local tumour response (according to the RECIST criteria), toxicity (according to CTC 4.0) and response duration were analyzed after patients' stratification for their age (<70 vs ≥ 70 years).

Results: A median of 2 ECT cycles (range, 1-6) was administered. The two groups of patients (younger, n=28; older, n=32) were comparable for clinical and pathological features, except for the number of CW metastases (median 24 vs 10, respectively; Mann-Whitney U-test, P=.023). Local tumour response, assessed on 242 clinically measurable target lesions (median size 32 mm, range 10-340), was complete response in 22/60 (36.7%) patients, partial response in 27/60 (45%), stable disease in 11/60 (18.3%). The complete response rate was significantly higher in elderly patients (55% vs 25%; two-tailed Fisher test, P=.019). Treatment-related morbidity was mild, increased after re-treatments and consisted of local pain and skin toxicity (G3 ulceration in up to 20% of patients after 1 month). The median follow-up was 22 months (range, 4-56). Two-year local progression-free survival was comparable in the two groups (88% vs 83%, respectively, P=.120). Older patients reported a higher new lesions (NL, i.e. metastases occurred outside the ECT field) -free survival than younger patients, although statistically not significant (40% vs 24%, P=.105).

Conclusions: In our series, elderly patients with unresectable CWR after mastectomy presented fewer superficial metastases and were more likely to achieve local complete response after ECT. This translated into both durable CW control (obtained by means of a limited number of ECT cycles) and in contained local toxicity. Prospective trials are awaited to confirm these findings in larger series.

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P024. Short-term complications of prosthetic breast reconstruction with and without acellular dermal matrix: A comparative study

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Introduction: Acellular dermal matrix (ADM) may improve outcomes in prosthetic breast reconstruction (PBR), but recent evidence suggests that complication rates may be higher when ADM is used. We retrospectively

compared short-term complications in ADM-assisted and standard expander-implant breast reconstruction (EIBR) to determine the safety of the procedure in our centre.

Methods: A retrospective case-note review of consecutive women undergoing PBR from May-2011 to November-2012 was performed. Data were extracted using a standardised study pro-forma. The rates of total-complications, major-complications requiring re-operation and implant loss were compared between groups.

Results: 49 PBR; 34 (69.4%) ADM-assisted and 15 (30.6%) standard-EIBR were performed in 34 women for malignancy (n=33,67.3%) or prophylaxis (n=16, 32.7%) over the 18-month study period. ADM facilitated single-stage direct-to-implant reconstruction in 28 (82.4%) cases and expander-based reconstruction in 6 (17.6%). Protexa was used in 31 (91.2%) reconstructions and Strattice in 3 (8.8%) There were no differences between patient age, co-morbidities, smoking or chemotherapy between groups, but ADM-patients were more likely to have received radiotherapy (30.4%- ADM group-vs-0%-standard) than those undergoing standard-EIBR. There were no significant differences in the rates of overall (ADM-assisted- 12/34,35.3%;standard-PBR-5/15,33.3%, p=1.00) or major (ADM-assisted-4/34,11.8%;standard-PBR-3/15,20.0%) complications between the ADM-assisted and standard-EIBR groups. The rate of implant loss was 11.8% (n=4) in the ADM group and 6.7% (n=1) in the standard group (p=1.00). All implant losses in the ADM-group were associated with the receipt of radiotherapy.

Conclusions: ADM-assisted PBR is safe and may improve outcomes for women by facilitating single-stage reconstruction. Robust prospective evaluation with randomised clinical trials including patient-reported and cosmetic outcomes are now needed to definitively evaluate the role of ADM in PBR.

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P025. Importance of monitoring bone health in breast cancer

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Introduction: Aromatase Inhibitors used in the management of breast cancer are associated with premature bone mineral density loss due to reduced circulating oestrogen, which in turn leaves patients susceptible to fragility fractures. The aims of this retrospective study are to assess whether patients within this trust are being managed appropriately in accordance with guidelines regarding bone health; whether these practices are cost−effective and if mammographic breast tissue density has a clinical use in predicting osteoporosis development.

Method: Retrospective analyses and comparisons of breast cancer and bone health management, DEXA scans and BIRADS scores were performed using 248 patient records between 2008 and 2011.

Results: 84% of patients were appropriately managed regarding bone health prior to DEXA scanning. Following DEXA scanning, 59% of patients were found to be osteopenic and 13% osteoporotic. Following identification, 5% of osteopenic patients and 19% of osteoporotic patients were not on appropriate treatment according to guidelines. A fragility fracture rate of 2.5% was observed, with 50% of these fractures occurring amongst osteopenic patients and 33% amongst osteoporotic patients. Following fracture, 33% of patients were managed inadequately. The correlation between mammographic breast density and osteoporosis development proved to be statistically insignificant ($p = 0.879$).

Conclusion: The majority of patients have been managed correctly and in accordance with bone health guidelines. Implications of these guidelines are highly beneficial to patients, and application may be deemed cost − effective. The correlation between mammographic breast tissue density and development of osteoporosis is insignificant, and should therefore not be clinically employed.

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P026. The positive sentinel lymph node: Can we predict which patients are of real benefit with further lymph node surgery?

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Introduction: Sentinel lymph node biopsy (SLNB) is the gold standard for axillary staging for invasive breast cancer. Axillary lymph node dissection (ALND) is recommended if sentinel lymph node (SLN) is positive, although a significant percentage have no further node involvement. Many question the value of ALND after positive SLNB especially following ASCOG Z0011. At diagnosis our patients undergo detailed ultrasound axillary assessment with core biopsy of abnormal nodes. We identify the majority with significant volume disease (78%). The remainder undergo SLNB. We undertook a 3 year prospective study of SLNB, to try and identify predictive factors for those who are likely to require ALND.

Methods: Through a prospective database, we analysed outcomes and Histology (Haematoxylin and Eosin) for patients who underwent SLNB (January 1st 2009 - December 31st 2011). We used SPSS Version 20 for univariate analysis, with chi-squared analysis or Fisher's exact test. Logistic regression utilized to identify whether any multiple factors were significant.

Results: 457 SLNBs were performed. 122 (26.7%) were positive, the majority (68%) with macrometases and 63% had lymphovascular invasion (LVI). Ninety percent (110/122) underwent ALND, although in only 34% (37) were further positive nodes retrieved. Using univariate analysis, LVI, grade and size were all significant predictors for a positive ALND. However, Logistic regression only identified tumour size (P=0.046)and grade (p=0.047) as significant.

Conclusion: In our institution nearly ¾ of SLNBs do not have metastatic spread to the SLN. With an involved SLN only 1/3 have further positive nodes at ALND; representing only 8% of the total SLNB cohort. A policy of offering intra-operative analysis of the SLN to all patients may lead to over treatment. A selective approach is more pragmatic, offering intra operative analysis only for those patients with factors identified that predict those most likely to harbour involved ALND. The success of this pathway is dependent upon detailed preoperative axillary ultrasound.

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P027. Current trend in breast reconstruction using acellular demal matrix and pedicle flap: Outcomes of district general hospital and national survey

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Introduction: Breast reconstruction using acellular dermal matrix (ADM) is an emerging technique. We aimed to assess whether such a practice is affecting the occurrence of traditional pedicle-flap based reconstruction in UK.

Methods: All breast reconstructions that took place between October 2009 and May 2012 in a district general hospital (DGH) were analysed. Data were obtained from Picis® theatre database. An email-based survey of members of Association of Breast Surgery was also undertaken.

Results: A total of 58 cases took place in the DGH (flap=24, ADM=34). ADM-based reconstruction, compared to flap-based reconstruction, entailed younger patients (45.7±10.1 vs. 50.7±8.3 years, p=0.05), shorter stay (4.2±2.2 vs. 6.1±2.2 days, p=0.002) and shorter operative time (215.2±58.3 vs. 282.3±45.1 minutes, p=0.0001). This period noticed a significant rise of ADM-based reconstruction (R^2=0.94), compared to flap-based reconstruction (R^2=0.25):

	ADM	Flap
First quarter	1	6
Second quarter	5	7
Third quarter	15	7
Fourth quarter	13	4

36 (out of 406) members of ABS responded to the survey. The national survey confirmed the trend of increased occurrence of ADM-based reconstruction by 177.8% [from 95 (2010) to 169 (2011)] and a decrease of incidence of flap-based reconstruction by 84.3% [from 249 (2010) to 210 (2011)] over last two years.

Conclusions: DGH experience showed that shorter procedural time and stay were associated with ADM-based breast reconstructions. The latter had been rising steeply over recent times, with reciprocal fall of flap-based reconstruction, as shown by both local and national experience. These have implications on use of resources, future training, and patient-expectations.

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P028. Is it feasible to use an automated mammographic breast volume tool to aid breast reconstruction and implant selection?

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Introduction: Within the standard breast cancer patient assessment, there is no accurate method for estimating breast volume pre-operatively, for reconstruction and implant selection purposes.

With the advent of Full Field Digital Mammography, using Volpara software, it is possible to estimate breast volume from mammographic images. In this study we assessed the relationship of the mammographic estimation of breast volume, to the actual volume of tissue removed at mastectomy.

Method: We collected data retrospectively on 199 mastectomy specimens and prospectively on 29 specimens.

Mammogram estimations of volume and density were provided for assessment as potential predictors of weight of the mastectomy tissue in the retrospective study arm and of mastectomy volume (using volume displacement) in the prospective arm.

Results: The Retrospective Study: Multivariate linear regression was used to assess mammogram volumes, densities and patient age as predictors of actual breast weight. Estimated MLO volume was shown to be the best predictor of mastectomy weight, but the statistical model used could only predict the weight in 73% of the specimens.

The Prospective Study: The mean difference between the actual breast volume and the estimated volume (mean of the MLO and the CC estimation) was 30.8% (range 0.8% -153%). This was not improved when comparing the actual volume with MLO or CC estimations. 62% of the estimated breast volumes were >10% different from the actual breast volume.

Conclusion: From our results, mammographic estimates of breast volume do not predict actual breast volume strongly enough to recommend their use when making preoperative decisions about reconstruction and implant selection.

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P029. Enhanced pre-treatment axillary staging using contrast enhanced ultrasound (CEUS) in breast cancer patients undergoing neo-adjuvant chemotherapy

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Introduction: In patients with breast cancer, neo-adjuvant chemotherapy is used to reduce the size of the breast tumour. Enhanced pre-treatment staging of the axilla using CEUS may facilitate surgical decisions in neo-adjuvant patients with a normal grey-scale axillary ultrasound.

Methods: 18 patients being treated with neo-adjuvant chemotherapy for primary breast cancer were included in the study. Patients had a normal grey-scale axillary ultrasound and enhanced pre-operative axillary staging using CEUS and sentinel lymph node (SLN) core biopsy prior to treatment. Following 4-6 months of chemotherapy, patients underwent tumour excision and SLN excision or axillary node clearance (ANC) if the original biopsy was positive for metastatic cells.

Results: 13 patients had benign SLN biopsies with enhanced pre-treatment axillary staging. Of these, only 1 patient was found to have a single involved lymph node (LN) plus isolated tumour cells at the time of final surgery. 5 patients had positive SLN biopsies at the pre-treatment stage. Two patients had 4 or more LN involved at the time of final surgery. Three patients were found to be LN negative on subsequent ANC. Fibrosis was seen in the LN of one patient and a partial response to treatment was noted in the breast tumours of the other 2 patients.

Conclusions: Enhanced axillary staging with CEUS prior to neo-adjuvant chemotherapy may accurately identify those patients without LN metastases. Our data suggests that patients commencing neo-adjuvant chemotherapy with a positive pre-treatment SLN biopsy could benefit from post-treatment SLN biopsy prior to decisions regarding axillary surgery.

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P030. The cost of oncoplastic breast surgery to an NHS Trust

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Introduction: Payment by Results (PbR) is the payment system in England under which commissioners pay healthcare providers for each patient seen or treated, taking into account the complexity of the patient's healthcare needs. Traditionally Breast Surgery is a loss leader for NHS Trusts. Our aim was to identify which oncoplastic breast surgical procedures were generating income and which were operating at a loss.

Methods: All patients who underwent oncoplastic breast procedures in the last quarter of 2011 in a single breast unit were identified. Patient level information and costing systems data was obtained for each patient including the cost incurred, income received and variance (surplus or deficit) for the operative admission episode.

Results: 61 procedures were performed between October 2011 and December 2011. 32 therapeutic mammoplasties (TM, 6 with contralateral reduction mammoplasties - RM), 8 sub-pectoral implant reconstructions with acellular dermal matrix (ADM, 1 bilateral, 2 with RM, 1 with contralateral augmentation), 6 TRAM flap reconstructions (1 delayed), 6 LD reconstructions (1 mini, 1 extended, 2 delayed), 6 RM and 3 sub-pectoral tissue expander implant reconstructions with lower pole dermal sling (2 bilateral) were performed. Median cost, income and variance are shown in Table 1.

Table 1

Procedure	n	Cost £ (range)	Income £ (range)	Variance £ (range)
TM	32	4099 (1447 − 8407)	2392 (2144 − 6560)	-1532 (-5971 − 3229)
ADM	8	5073 (3751 − 7984)	4965 (2320 − 6693)	673 (-5253 − 1304)
TRAM	6	6827 (6301 − 9717)	6048 (6013 − 7239)	-592 (-2479 − 144)
LD	6	9862 (3376 − 11605)	5554 (4941 − 6084)	-4307 (-6537 − 1566)
RM	6	3741 (1937 − 5962)	2413 (2144 − 2931)	-1327 (-3031 − 397)
Dermal Sling	3	6337 (4738 − 6905)	5961 (2308 − 5996)	-910 (-4029 − 1224)

Conclusions: The only oncoplastic procedure that resulted in a surplus median income for the Trust was ADM based reconstruction. The greatest median loss was with LD flaps. There is currently no appropriate clinical code for TM in the PbR system which would account for the median losses identified. This issue is currently being addressed nationally.

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P031. Patient reported outcomes following acellular dermal matrix plus implant based immediate breast reconstruction after mastectomy − experience from two centres

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Introduction: Immediate implant-only breast reconstruction results in psychosexual well being levels comparable to mastectomy alone and overall poorer aesthetic outcomes than autologous techniques. Acellular dermal matrix (ADM) slings offer improvements over traditional subpectoral implant-only reconstruction.

Aim: Assess the impact of mastectomy and immediate breast reconstruction using an ADM plus implant based technique on quality of life.

Methods: Modified BREAST-Q questionnaire sent to all women (n=54) undergoing this form of breast reconstruction in two centres since the techniques' introduction.

Results: Response rate 85.2%. Mean age of respondents 51.1 years. Mean time from surgery 18 months.

Over 90%, when clothed, are satisfied with the post-operative appearance of the breast area. 97.8% are satisfied with breast shape when wearing a bra. Over three-quarters are satisfied with the natural feel and position of the reconstructed breast. About two-thirds are satisfied with breast softness and unclothed symmetry. 80% reported satisfaction with the appearance of the reconstructed breast compared to pre-operatively. 86.7% reported feeling emotionally able, healthy, socially confident and feminine some or all of the time. 51.6% who responded to the section regarding sexuality feel satisfied with their sex-life most or all of the time.

97.8% report an excellent, very good or good overall outcome. This compares to 86% in the recent National Mastectomy and Breast Reconstruction (NMBR) Audit. Overall aesthetic outcomes are superior, with comparative psychosexual outcomes.

Conclusions: ADM plus implant reconstruction offers aesthetic and psychosexual results that compare favourably to the NMBR Audit findings for immediate reconstruction, which take into account traditionally more favoured autologous techniques.

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P032. Has magnetic resonance imaging (MRI) affected our practice?

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Introduction: NICE recommends breast MRI if there is discrepancy in standard assessment, if breast density precludes accurate assessment, and to assess tumour size if breast-conserving surgery is being considered for lobular cancer. Recent papers also advocate its use in non-straightforward cases. We evaluate whether MRI changed the diagnosis and management of breast cancer in our unit.

Methods: A retrospective review was conducted of all breast cancer patients undergoing breast MRI between March 2010 - October 2012. The cancer registry and PACS system were used to identify the sample group. Histopathological and radiological reports were cross-checked for data collection.

Results: 128 patients were studied (mean age 51 years). Indeterminate lesions, lesions affecting the whole breast and patients with incomplete data were excluded. 38 (30%) were upgraded from single to multifocal disease, 5 (4%) to bilateral disease. One had bilateral disease downgraded to single-side disease. When compared to conventional imaging, 75% of lesions measured larger on MRI, 19% were smaller, and 6% were unchanged. Histological-size was larger than MRI-size in 26 cases (mean increase 9mm), smaller in 53 cases (mean decrease 11mm) and unchanged in 8. Mean time between standard imaging and MRI, between MRI request and scanning, and between MRI scanning and reporting was 20, 11, and 4 days respectively.

Conclusions: Over one-third of patients underwent upgrading of their original disease after MRI. However there was delay waiting for MRI. This study suggests that we should offer MRI to more new breast cancer patients, however this has obvious waiting time and resource implications.

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P033. A change in mammography guidelines for symptomatic breast patients: What will we miss?

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Introduction: According to the 2010 "Best practice diagnostic guidelines for patients presenting with breast symptoms", mammography is not routinely indicated in patients aged <40 unless there are clinically suspicious findings. This represents an age shift from the previous cut off of 35 years. This study examines the possibility that breast cancers may therefore be missed in women aged 35-40.

Methods: A retrospective analysis of all patients diagnosed with breast cancer aged 35-40 over a 5 year period.

Results: 177 patients were identified in the set time period. Of these 154 presented with a palpable lump, eight with nodularity, five with nipple discharge, four with skin changes only, four with an axillary mass and two with mastalgia. 160 patients had both abnormal mammograms and ultrasounds. 14 (7.91%) patients had normal mammography but specific findings on ultrasound of which 11 presented with a palpable breast lump, one with nipple discharge, one with an axillary mass and one with skin changes. Only 3 (1.69%) patients had findings on mammogram but none on ultrasound. All of these patients presented with a palpable breast lump and had DCIS but no invasive disease on excision.

Conclusion: This study did not identify any patients whose breast cancer diagnosis would have been missed by the guideline changes. All patients with normal ultrasound findings had a clinically suspicious lump

and therefore according to the recommendations would also have undergone mammography.

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P034. Therapeutic mammaplasty allows clear surgical margins in large and multifocal tumours without delaying adjuvant therapies

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Introduction: Therapeutic mammaplasty (TM) is suggested to have a number of advantages by comparison to standard breast conservation surgery in selected patients, however, data to support such assertions are sparse and outcomes remain uncertain. We assess the ability of TM to achieve some of its suggested benefits, specifically obtaining clear surgical margins (CSM) around large or multifocal tumours, and examine whether TM is associated with delay in administering adjuvant therapies.

Method: Data were extracted from a prospectively maintained database on all patients undergoing TM over 8 years up to September 2012. Key oncological outcomes and time to initiation of adjuvant therapies were recorded.

Results: Sixty five patients underwent TM, sixty for invasive disease (92%) and five for in-situ disease only (8%). Tumour size ranged from 3mm (multifocal disease) to 85mm (DCIS). Neo-adjuvant therapy was prescribed in 20 patients (31%), with 15 (23%) receiving chemotherapy and five (8%) receiving endocrine therapy prior to surgery. CSM were obtained in 62 patients (95%). Where margins were involved, two were due to DCIS and one from undiagnosed invasive lobular cancer, resulting in one wider excision and two completion mastectomies. Complications included delayed wound healing (8/65), fat necrosis (1/65), nipple loss (2/65) and DXT-induced skin damage (1/65). Radiotherapy was delayed in one patient with delayed wound healing. No local recurrence has been recorded.

Conclusion: These data support the ability of TM to consistently achieve CSM around large and multifocal tumours in selected patients, with acceptable local control and minimal morbidity and delay in adjuvant therapies.

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P035. Accuracy of axillary ultrasound and ultrasound-guided FNAC/biopsy in the detection of metastatic lymph nodes in patients with breast cancer

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Introduction: Pre-operative staging of the axilla in breast cancer patients is essential for deciding treatment at the time of initial breast surgery and often avoids the need for a second operation. NICE recommend axillary ultrasound imaging +/- ultrasound guided FNAC/biopsy pre-operatively. The aim of this study was to evaluate the accuracy of axillary ultrasound and ultrasound guided FNAC/biopsy in assessing axillary node status

Method: We performed a retrospective analysis of 392 patients diagnosed with primary breast cancer. Data collected included preoperative and postoperative axillary node status, and requirement for further treatment. The proportion of patients that pre-operative staging correctly identified was ascertained using post-operative histology as the gold standard staging method.

Results: Axillary disease was present in 147 (39%) of all patients, with combined preoperative axillary ultrasound and FNAC/biopsy correctly identifying 51 (49%) of these patients. Sensitivity and specificity of preoperative axillary ultrasound was 48% and 86%, respectively. Sensitivity and specificity of preoperative axillary ultrasound combined with FNAC/biopsy was 84% and 73%, respectively. On post-operative histology 46 (31%) patients required a further axillary procedure due to negative preoperative staging.

Conclusion: When axillary ultrasound is combined with FNAC/biopsy sensitivity is markedly increased. We believe this increased sensitivity outweighs the slight reduced specificity in combination staging. Given that axillary ultrasound +/- ultrasound guided FNAC/biopsy determined the correct initial axillary procedure in 278 (73%) of our patients it is a cost-effective pre-operative procedure.

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P036. Does unexpected ductal carcinoma in-situ affect the reoperation rate after breast conserving surgery?

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Introduction: It has recently been reported that the reoperation rate after breast conserving surgery is surprisingly high at 20% and higher when in-situ disease is present (29.5% v 18%). This was reported on postoperative histology[1]. We examined how often the postoperative histology was at variance to the preoperative core biopsy and analysed the reoperation rate by the core biopsy.

Methods: 54 consecutive patients diagnosed with pure invasive ductal carcinoma (IDC) on core biopsy underwent breast conserving surgery between February 2007 and February 2008. Pre and postoperative histology was compared and analysed for the reoperation rate.

Results: 23 patients were confirmed to have pure IDC on postoperative histology, but in 31 (57%) ductal carcinoma in-situ (DCIS) was also reported See Table 1.

Conclusions: Reoperation following breast conserving surgery was higher when in-situ disease was unexpectedly identified postoperatively. Discussion with breast histopathologists reveals that not all would report the presence of in-situ disease in a core biopsy containing mainly invasive carcinoma. We recommend a standard proforma for preoperative core biopsy reports to include both invasive and in-situ components.

Table 1

Preoperative core biopsy (n)	Postoperative histology	Number	Number reoperated	Reoperation rate by core biopsy	Reoperation rate by postoperative histology
IDC (54)	IDC	23	4	22%	17%
	IDC + DCIS	31	8		26%

Reference

1. Jeevan R, et al. *BMJ* 2012;345:e4505

http://dx.doi.org/10.1016/j.ejso.2013.01.072

P037. Axillary node micrometastasis in sentinel nodes: Can we really omit an axillary clearance?

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Introduction: The need to perform axillary nodal clearance in the presence of nodal micrometastases is currently controversial. The literature quotes varying rates for the incidence of non sentinel node metastases in patients with sentinel lymph node (SLN) micrometastases. In our unit we routinely offer axillary node clearance to patients with micrometastases on SLN biopsy. The aim of this study was to assess the incidence of non-SLN metastases and identify any clinico-pathological parameters that would enable us to be more selective in offering axillary clearance.

Methods: A retrospective analysis of a prospectively maintained database of patients undergoing intraoperative assessment of sentinel node biopsy was performed over the time period December 2007 to April 2012. The demographic information collated included patient age, tumour type, size, grade, ER status & LVI.

Results: 471 patients had positive SLNs intraoperatively, with 66 patients (mean age 59.1) having confirmed micrometastases in a single sentinel node. All underwent axillary node clearance. 55 of these patients had no further positive nodes on clearance however 11 patients had further positive nodes (macrometastases). 9 of these patients had 1-3 positive nodes on clearance, whilst 2 patients had more than 3 further positive nodes. This study did not demonstrate any correlation between patient age, tumour size, grade, type, ER status, LVI and presence of non SLN disease.

Conclusions: A 16.6% incidence of non-SLN macrometastases in patients with micrometastases on SLN biopsy raises the question whether we can justify omitting axillary clearance for these patients until further evidence is available.

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P038. The effect of acellular dermal matrix use on the outcomes of prosthetic breast reconstruction: A systematic review

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Introduction: Acellular dermal matrix (ADM) may improve outcomes in prosthetic breast reconstruction (PBR) but there is conflicting evidence to support these benefits. Existing systematic reviews have major methodological limitations. The aim of this study was to critically appraise and evaluate the current evidence for ADM-assisted PBR.

Methods: Comprehensive electronic searches identified complete papers published in English between January 2000 and October 2012, reporting any outcome of ADM-assisted PBR. All randomised trials (RCTs) and non-randomised studies (NRSs) with more than 50 ADM-recipients were included and critically appraised using the modified Cochrane Risk of Bias tool, adapted for NRSs. Characteristics and results of identified studies were summarised.

Results: 23 papers; 1 RCT, 17 cohort studies and 5 case-series were identified, all of which were considered at high-risk of bias. The median ADM sample size was 124 (interquartile range 67-189). Most studies were single-centre (n=21, 91.3%) and only half (n=13) reported duration of follow-up. ADM was most commonly used for immediate (n=16, 69.6%) two-stage PBR (n=15, 65.2%) with few studies evaluating ADM-assisted single-stage procedures (n=3, 13.0%). Most studies used AlloDerm (n=22, 95.7%) with less than 10% (n=2) assessing non-human ADMs (e.g.Strattice). All studies reported clinical outcomes and over half (n=13,56.5%) assessed process outcomes but few evaluated cosmetic (n=3, 13%) or patient-reported outcomes (n=2, 8.7%). Heterogeneity between studies precluded meaningful cross-study comparison or data synthesis.

Conclusions: There is currently a lack of high-quality evidence to support the use of ADM in PBR. Well-designed multi-centre RCTs are needed to evaluate whether ADM use may improve outcomes for patients choosing PBR.

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P039. Raising the standards of outcome reporting in reconstructive breast surgery – Initial results of the BRAVO (Breast Reconstruction and Valid Outcomes) study, a multicentre consensus process to develop a core outcome set

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Introduction: Careful selection of outcomes is important if research and audit are to inform clinical practice and direct policy-makers. Systematic reviews (SRs), however, demonstrate marked heterogeneity in the selection, definition and reporting of key outcomes in reconstructive breast surgery (RBS), limiting cross-study comparison and research synthesis. One solution is to develop and use core outcome sets (COS) – a scientifically agreed-upon minimum set of outcomes that should be measured and reported in all studies. We report the initial results of the BRAVO (Breast Reconstruction and Valid Outcomes) Study which aimed to develop a COS for RBS.

Methods: A questionnaire was developed from a long-list of outcomes identified from SRs and qualitative work with key stakeholders and sent to a purposive sample of patients and professionals involved in the provision of specialist care. Participants were asked to prioritise outcomes on a scale of 1 (unimportant) to 9 (extremely important) and the proportion of respondents rating each outcome 'very important' (score of 7-9) was compared and contrasted between participant groups.

Results: The response rate was 55.6% (151/274 patients; 88/156 professionals). There was agreement between seven out of 10 most-highly ranked outcomes including patient-reported cosmesis, cosmetic satisfaction and early complications. Patients, but not professionals rated generic complications including bleeding as important, whilst professionals rated psychosocial issues including self-esteem, more highly than patients.

Conclusions: Patients and professionals prioritise similar outcomes, but areas of discrepancy exist. A further Delphi round in which outcomes are re-prioritised and stakeholder meetings to ratify the final decisions will be necessary to determine the final COS.

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P040. A prospective correlation of a single question linear analogue scale with the hospital anxiety and depression scale in breast outpatients

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Introduction: Referral to a breast outpatient clinic can be anxiety-provoking and this is frequently addressed in studies. Traditionally, long questionnaires are used with obvious practical difficulties. We wished to see if this could be simplified for practical use in our environment.

Patients and methods: Patients attending our symptomatic breast clinic have their anxiety levels routinely assessed using a 5 point "in house" linear analogue scale (LAS); (1 "Really not worried" to 5 "Very anxious indeed") This was prospectively correlated with the anxiety section of the Hospital Anxiety and Depression Scale (HADS), in 199 consecutive consented new patients.

Results:

	HADS <7 (negative)	HADS=7-11 (borderline)	HADS >12 (positive)	Total
LAS=1 (least anxious)	15	5	1	21
LAS=2,3,4 (borderline)	49	63	31	143
LAS= 5 (most anxious)	4	11	20	35
Total	68	79	52	199

Spearman's Rank correlation coefficient (r) = 0.48, 95% CI: 0.36 to 0.58, ($P < 0.001$).

Discussion: Evaluation of anxiety levels is standard in many clinics but even the HADS is time consuming to administer and record. Our LAS correlates strongly and although not as predictive (PPV for most anxious = 57%) and therefore not diagnostic, is very quickly determined on a pre-consultation questionnaire.

Conclusion: The easy-to-use LAS, is a useful instrument for population studies involving anxiety in breast outpatients.

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P041. Capsular contracture rates in implant-only and LD and implant reconstruction patients: is there a difference?

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

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

Results: 69 patients (80 breasts) underwent LD/implant and 49 patients (59 breasts) underwent implant-only reconstructions. Mean follow-up time was 64 months (range 47-108 months). Overall, there was no significant difference in the grade of capsular contracture between the implant-only and LD/implant groups (p=0.510, Fisher's exact test). Similarly, there was no significant difference in the number of capsulectomy procedures in the LD/implant (21 procedures) or the implant-only (28 procedures) groups (1.1 versus 1.6 procedures per patient). Adjuvant radiotherapy was administered in 37.5% of LD/implant and 28.8% of implant-only breasts. Radiotherapy increased the risk of developing grade 3/4 contracture by nearly four-fold in both groups (p=0.003, odds ratio=3.7). In irradiated breasts, the grade of contracture was similar in the LD/implant and implant-only reconstructions:

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

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

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P042. How comprehensive geriatric assessment can support treatment decisions in frail women with early breast cancer

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Introduction: Primary endocrine therapy has been widely used to treat oestrogen-receptor (OR) positive early breast cancer (EBCA) in the elderly. Median response duration is 2-3 years which may be sufficient for frail patients, with short life expectancy. However it results in poorer local control and medium-term survival than standard treatment. We therefore sought a prognostic score to predict 3-year survival.

Methods: Data on assessments of frail patients with EBCA, seen in a multidisciplinary clinic, were prospectively collected. These were audited, excluding patients with OR negative tumours. Potential predictors included co-morbidities, cognitive function, dependency and depression (measured using validated questionnaires), together with age, ethnicity and American Society of Anasthetists (ASA) grade. Cox proportional hazards analysis was performed to determine predictors of 3-year overall survival.

Results: 77 deaths occurred within 3 years among 328 patients (median age 82, range 43-98). Dependency (Barthel Index: HR 0.94, 95% CI 0.89, 0.98), cognitive function (Mini Mental State Examination: HR 0.96, 95% CI 0.92, 0.99) and ASA grade (HR 1.76, 95% CI 1.06, 2.90) gave the best prediction of 3-year mortality with an area under the receiver-operating curve of 61.7%.

Conclusions: Comprehensive Geriatric Assessment scores predict life expectancy in this patient group. Those with a short life expectancy can be confidently treated with PET; most of our assessed patients would benefit from local treatment.

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P043. Routine day-case mastectomy and axillary surgery

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Introduction: Day-case axillary clearance has previously been reported, but there have been no reports in the literature of routine day-case mastectomy ± axillary surgery. We aimed to compare the outcomes of patients having their mastectomy in our adult day surgical unit with those prior to this facility being available.

Methods: Comprehensive data was collected contemporaneously between 01/12/06 - 30/11/11 for all women undergoing mastectomy ± axillary surgery prior to, and following, our elective operating moving to a dedicated adult day case unit in April 2008. This data included patient demographics, ASA grade, social support, anaesthetic details, surgical procedure, analgesia used and rates of complications and re-admission.

Results: 188 patients underwent mastectomy ± axillary surgery in our main hospital, prior to our service relocation, and 221 in the adult day case unit. The mean age of the main hospital group was 62.1 ±11.6 years and 60.3 ±12.1 years for the day unit group (one-way ANOVA p=0.998).

22/188 (11.7%) vs. 190/221 (86%) were discharged on the day of surgery, 0/188 (0%) vs. 31/221 (14%) within 23 hours, and 88/188 (46.8%) vs. 0/221 (0%) discharged on the first post-operative day.

Only 4/221 (1.8%) were readmitted for operative management of a complication, and the overall complication rate of 11.3% (including wound infection, chronic seroma and haematoma) in the day-case group compares favourably with the group of patients operated on in the main hospital.

Conclusion: Day-case mastectomy ± axillary surgery can be performed in women with breast cancer, with low rates of overnight stay, readmission and complications.

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P044. An audit of local recurrence following neoadjuvant chemotherapy and breast conserving surgery: The Royal Devon & Exeter experience

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Introduction: The risk of ipsilateral breast tumour recurrence (IBTR) following neoadjuvant chemotherapy and breast conserving surgery (BCS) for invasive breast cancer (IBC) is reported as 4 - 21.5%. Our aim was to perform an audit of local recurrence rates in patients undergoing neoadjuvant chemotherapy who were treated with BCS from 2000-2011. Mastectomy was performed in patients with a significant disease burden or at patient's request.

Method: The unit's current standard practice is wide local excision followed by FECT chemotherapy and 40Gy of radiotherapy in 15-20 fractions. A prospectively collected database (Dendrite®) was interrogated to capture data. Patients with inflammatory breast cancer and extensive DCIS were excluded.

Results: A total of 117 patients had neoadjuvant chemotherapy. 74 patients had a mastectomy, 7 had a mastectomy and immediate reconstruction and 34 (29%) underwent breast conserving surgery. The mean age of BCS patients was 46 (range 29-63). After a mean follow up of 49.4 months, there was one case of ipsilateral Paget's disease of the nipple, resulting in an IBTR of 2.9%. 7 of the 34 patients (21%) developed distant disease recurrence during follow up and 7 patients died (6 from metastatic disease).

Conclusions: Combining neoadjuvant chemotherapy with BCS in our unit is safe and results in low rates of IBTR (2.9%). This compares favourably with the target local recurrence rate of <3% defined by the Association of Breast Surgery at BASO surgical guidelines for the management of breast cancer (2009).

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P045. Development of an outpatient breast abscess pathway

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Introduction: Breast Surgery is separated from general surgery in most tertiary hospitals in the UK and breast surgeons have come off the on call rota for general surgery. There are units where on call arrangements and the management of breast abscesses are problematic (ABS newsletter, Autumn 2012).[1]

Methods: We present an outpatient breast abscess pathway, exclusively managed by Breast Surgery, developed in a University Hospital in December 2006. The setup and protocol of the Breast Abscess Pathway is outlined and compared to the previous service for this group of patients.

Results: Patients are managed exclusively within Breast Surgery without involvement of the general surgery team or the emergency service. Most patients are managed in the breast outpatients department, offering a better service to them and reducing the use of the emergency service and hospital beds. There was a 64% reduction of inpatient admissions. The number of patients admitted for breast abscess in 2005 and 2006 was 63 and 72 respectively. This dropped to 26 in 2007 and has remained low ever since (22, 22, 20, 21 in 2008, 2009, 2010 and 2011 respectively). All outpatient episodes are completed within a 1-2 hour one-stop clinic appointment.

Conclusions: The development of an outpatient breast abscess pathway facilitates the prompt management of patients. Our pathway shows that it is possible to offer this service in any UK hospital.

1. Simon Cawthorn, Members' Feedback to Council, ABS Newsletter, Autumn 2012

http://dx.doi.org/10.1016/j.ejso.2013.01.081

P046. Is there any difference in the rate of re excision after cavity shave margins in breast conserving surgery?

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Introduction: Re excision rates following breast conserving surgery have been reported around 12% to 30%, whether cavity shave margin reduces the rate of re excision remains unclear. We aim to determine whether cavity shave margins reduce the rate of re excision.

Method: We performed a retrospective review of breast cancer patient who underwent wide local excision between Jan 2010 and June 2012 in our trust. We divided patients in two groups for the purpose of review; group 1 had wide local excision alone (184) whereas group 2 had wide local excision with cavity shave margins (137).

Results: 321 cancer patients underwent wide local excision, 41 patients had to return for re excision, rate of re excision was 11.6% in the cavity shave group and 13.5% in the WLE (matched) group. It was found to have no significant difference between the two groups; p value 0.7382. (Fisher's test analysis)

Group one (WLE)	Group two (CSM)
184	137
25	16

Conclusion: Taking cavity shave margins during wide local excision does not significantly reduce the rate of re excision. Hence; we do not recommend cavity shave routinely.

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P047. Volume assessment of the greater omentum for autologous breast reconstruction planning

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Introduction: Laparoscopic dissection of the Greater Omentum (GO) for volume replacement after breast cancer surgery is novel. Advances in CT imaging and 3D segmentation software make possible preoperative evaluation of the GO. Pedicled or free- style transposition of the GO to the breast mound has been described previously [Zaha et al. 2012].

The primary aim of this study is CT volumetric assessment of the GO - validated against matching fresh omentectomy specimen weights. We hope to establish the use of the GO as a feasible secondary source of autologous tissue for breast reconstruction in selected patients. There are at present no published, quantitative studies of the GO.

Methods: Prospective correlation (with ethics approval) of twenty consecutive en-bloc gastrectomy and omentectomy fresh specimen weights, against paired staging CT scans (128- MD Row Philips CT scanner, 2 mm

slice thickness with dual phase, contrast enhanced, image acquisition - Omnipaque 350, GE Healthcare, US). Seg-3D® (v.2.1.4, NIH - University of Utah) segmentation software, facilitates post acquisition rendering and volume analysis.

Results (preliminary): Patients' mean body mass index: 25.2 [range 22.4 - 28.0]; mean weight of the GO (dissected off the fresh en-bloc specimen) was 270gm [range 256 − 283gm]; the mean estimated GO volume: 213gm ∼ 220cc, [range 218- 223cc]; post-acquisition processing and analysis time was 44 minutes per patient [range 40 - 48mins]. The GO was clearly delineated all accrued cases to date.

Conclusions: This is the first report on non-invasive, quantitative evaluation of the GO to our knowledge.

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P048. DCIS cancer stem cells can be successfully targeted in a 3D culture system by a focal adhesion kinase inhibitor and sensitised to radiotherapy

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Introduction: Cancer stem cells (CSCs) are tumour initiating and preferentially survive radiotherapy leading to recurrence. Focal adhesion kinase (FAK) is overexpressed in breast cancers and is implicated in CSC regulation in mouse mammary-tumour models. The effect of FAK inhibition in human ductal carcinoma in situ (DCIS) CSCs was determined.

Methods: SUM225, MCF10DCIS.com and cells from DCIS patients (n=8) were grown as mammospheres ±FAK inhibitor PF573228 (0-5μM), ± ionising radiation (2Gy). Primary percentage mammosphere survival (%MS) measures CSC activity whilst secondary %MS measures self-renewal. DCIS-like acini were grown in 3D matrigel and then treated with PF573228 ± irradiation. Cells were retrieved and grown as mammospheres to assess CSC activity.

Results: FAK inhibitor decreased primary %MS in a dose-dependent manner by 56.2±2.6% ($p<0.001$) in SUM225CWN, 68.4±2.2% ($p<0.001$) in MCF10DCIS.com and 52.8±3.5% ($p<0.01$) in DCIS CSC from patients. A combination of FAK inhibition and irradiation was more effective than either treatment alone in SUM225CWN ($p<0.05$) and MCF10DCIS.com ($p<0.001$) cells. FAK inhibition decreased self-renewal of mammospheres in secondary culture in DCIS cell lines ($p<0.001$) and patient samples of DCIS CSC ($p<0.05$).

Treatment of SUM225CWN acini with the FAK inhibitor led to a decrease in %MS of 46.9±3.1% ($p<0.001$) in the primary and 72.5±0.21% ($p<0.001$) in the secondary generation. MCF10DCIS.com acini demonstrated a reduction in %MS of 39.9±2.9% ($p<0.001$) in the primary and 69.8±4.4% ($p<0.001$) in the secondary generation. Combination treatment of FAK inhibition and irradiation was most effective ($p<0.001$).

Conclusion: FAK inhibition alone or in combination with irradiation decreases DCIS CSC activity and self-renewal. Targeting FAK in the treatment of DCIS may reduce disease recurrence and improve patient outcome.

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P049. Do pre-malignant breast lesions express metastasis associated proteins seen in invasive breast cancer?

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Introduction: It is recognised that lesions such as atypical hyperplasia, LCIS and radial scar are associated with malignant change although the risk for an individual patient is uncertain. The aim of this study was to see if metastasis related proteins known to be altered in malignant breast lesions were expressed in premalignant lesions to see if risk could be stratified for individuals.

Methods: Following ethical approval the paraffin blocks from 22 patients with breast cancer (DCIS and low grade invasive) whose pathology included premalignant changes as well as malignant changes were identified. Relevant sections were cut and stained with antibodies to S100A, AGR2, osteopontin, FAND2, S100P and cytokeratin5/6. Slides were then screened by 3 observers and scored for expression of the proteins using light microscopy

Results: Increased staining for all antibodies was seen in the premalignant lesions compared to surrounding normal breast tissue (Wilcoxon rank test $p=0.05$), although there was little difference between the individual lesions themselves. FANCD2 which is associated with response to DNA damage was increased in all premalignant and malignant lesions except high grade DCIS when expression was lost.

Conclusion: Expression of proteins associated with malignancy appears to precede the development of histologically recognisable malignant change which suggests that events leading to malignancy occur at a very early stage of stem cell differentiation. The loss of FANCD2 in high grade DCIS whilst still being expressed in low grade invasive disease supports the concept of differing pathway phenotypes for breast cancer. Studies on a larger number of patients looking at individual variability in expression might allow hyperplasias to be subdivided into high and low risk based on FANCD2 expression.

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P050. Immediate breast reconstruction using bovine pericardium following skin sparing mastectomy

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Introduction: Biological materials have been used in immediate implant-based breast reconstruction extensively to form the lower & lateral part of Sub-pectoral Pouch. Porcine dermal allografts are commonly used for these procedures, but are associated with post-operative red-breast syndrome. The use of a bovine pericardium, Veritas®, has been shown to be successful in a variety of situations and is marketed for its strength and ease of use. We describe the first case series of the use of Veritas® in implant based breast reconstruction in the United Kingdom.

Method: A skin-sparing mastectomy is performed with the development of a sub-pectoral pouch. This includes releasing the inferior attachments of Pectoralis major to develop this tissue plane. The Veritas® is sutured onto the inferior border of the Pectoralis major and onto the serratus anterior laterally using a 3/0 Polyglycolide suture, leaving an opening inferiorly. The implant is placed into this pocket and a suction drain placed in the cavity. The inferior border is then closed.

Results: We have performed this technique in 30 patients (38 breasts, 22 unilateral and 8 bilateral) over last 12 months. There have been no significant complications and the aesthetics results have been deemed acceptable by patients. Its advantages are that no prior preparation is necessary with bovine pericardium and its ease of handling. Its adoption has reduced the incidence of red-breast syndrome from nearly 20% to 2.6% (1/38 reconstructions).

Conclusion: Based on our experience we highly recommend bovine pericardium for implant based immediate breast reconstruction following skin sparing mastectomy.

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P051. Therapeutic round block mastopexy for breast carcinoma in ptotic breasts

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Introduction: Round block Mastopexy is well known procedure for Mastopexy in aesthetic surgery. This applied to breast cancer cases with tumours between 2 and 6cm as a therapeutic procedure with or without summarization on the contra lateral side gives excellent clinical and aesthetic results. The procedure should be carefully selected for large ptotic breasts. We describe our experience with a series of 50 such cases.

Method: Between July 2006 and October 2012 50 breast cancers, 42 Invasive and 8 in-situ, were treated with round block mastopexy. The tumour size ranged from 2.3cm to 6.1cm. Among invasive tumours 36 patients had IDC, 1 had ILC and 5 patients had special type tumours. 8 patients had grade 1 carcinoma, 16 had grade 2 and 18 had grade 3 carcinoma. All patients were informed about necessity for further operation in the form of re-excision of margins or Mastectomy if margins were involved.

Results: Clear margins were obtained in 41 out of 50 cases. 5 patients had multifocal disease. 11 patients had neo-adjuvant chemotherapy. 4 patients with involved margins required re-excision of margins where only one margin was involved. 5 patients with 2 or more involved margins were treated with mastectomy with 2 having immediate reconstruction. 11 out 42 patients with invasive carcinoma had nodal involvement and were treated with axillary clearance or axillary sampling and adjuvant radiotherapy to axilla. 4 patients had post operative infection which was treated as per local protocol.

Conclusions: Round block mastopexy in carefully selected cases provides excellent cosmetic result and can safely be offered to patients with large breasts and a tumour ranging from 2 to 6cm with no additional risk of involved margins.

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P052. Vacuum assisted biopsy offers considerable benefit for patients with B3 core biopsies

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Background: Due to their malignant potential B3 lesions identified on core biopsy have traditionally been excised for definitive diagnosis. In our institution in 2009 a pathway was implemented for B3 lesions identified at breast screening, to undergo vacuum assisted biopsy (VAB) as a second line procedure. VAB allows more representative and larger volume tissue sampling than core biopsy and so more accurate pathological diagnosis.

Methods: Over a 3 year period, 219 patients had B3 lesions detected on initial core biopsy at our screening unit. Histological diagnoses, correlation with pathology following core biopsy/VAB/surgery, and incidence of surgery following VAB, were examined as outcome measures.

Results: VAB was technically or logistically possible for 178 (81.3%) patients. 140 (78.6%) showed no atypia and were discharged to screening. 38 required surgery: 20 were upgraded by VAB to a B5 diagnosis and proceeded to therapeutic surgery. 18 had an open diagnostic excision, and 2 further malignancies were found.

Conclusions: The advent of VAB represents a significant advance in the management of B3 lesions, as it negates the need for open diagnostic excision biopsy for the majority of patients and allows those with a malignant diagnosis to proceed directly to therapeutic surgery. A small group of patients do not benefit from this pathway, as an occasional cancer is still found on excision, where VAB showed no malignancy. The future challenge is to accurately identify which patients should have VAB as their first biopsy intervention.

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P053. Mammaglobin- A expression in primary and recurrent breast cancer

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Introduction: Human mammaglobin has been reported to be exclusively expressed in mammary epithelium and over expressed in some breast cancers. It has been used as a marker for sentinel lymph nodes and metastatic carcinomas from suspected breast cancer origin.

Methods: 181 breast specimens were analysed by immunohistochemistry for mammaglobin-A expression (17 non-cancerous breast tissue, 143 primary and 21 recurrent breast tumours). Tissue sections were regarded as positive when >10% of lesional cells were stained for mammaglobin. For comparison purposes histological grade, tumour type, tumour size, ER, PR, Her-2 status and presence/absence of nodal metastasis were recorded. The study had ethics approval.

Results: Positive mammaglobin expression was observed in 52% breast samples studied (52% primary and 48% recurrent). Positive expression was associated with benign or low grade tumours (59% benign, 67% grade 1, 53% grade 2, 41% grade 3). The same mammaglobin expression was observed in only 43% paired primary and recurrent tumour samples.

Mammaglobin expression in primary tumours positively correlated with both ER status (58% correlation; $p<0.05$ Chi-squared) and PR status (61% correlation). There was no correlation with lymphatic invasion, tumour size or HER-2 status.

Conclusions: Positive mammaglobin expression was found in a greater proportion of benign and low grade breast tumours than higher grade. The expression in primary tumours was significantly associated with both ER and PR status. Since positive ER status and lower tumour grade are linked with a better prognosis for breast cancer patients, then mammaglobin A protein expression may also be associated with better prognosis.

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P054. Diagnostic guidelines for male breast cancer: Are we probing too deep?

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Male breast cancer is a rare disease accounting for ~1% of breast cancers with an incidence of ~300 new cases per year in the UK. At present the UK diagnostic guidelines for male breast cancer involve a triple assessment: clinical examination, imaging (ultrasound, and/or mammogram), and histological/cytological investigations (biopsy or FNA). For female breast cancer the triple assessment is critical, but for males, owing to the differing presentation of cancer (e.g. later stage detection and a lack of fibroadenomas) it may be unnecessary to perform a biopsy in cases where the ultrasound is reported to show benign pseudogynaecomastia, fat necrosis, lipoma or gynaecomastia.

The aim of our retrospective audit was to assess the current practice of male breast cancer screening at West Middlesex University Hospital and to establish whether it leads to unnecessary invasive investigations. We collected data on all male patients seen in the breast clinic between January 2011 and December 2012, recording the initial ultrasound or mammogram score and any follow up investigations carried out.

Out of the 142 male patients identified, 62 (44%) had a biopsy and 5 (4%) were found to have a malignancy. Of the 124 patients with an ultrasound report of normal or benign (U1, U2) 45 underwent a core biopsy, and no malignancy was found. We propose ruling out malignancy in male patients scoring 2 or below on ultrasound and consequently avoiding performing unnecessary invasive procedures. We suggest that standard policy should be updated to reflect this finding.

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P055. MRI for the pre-operative workup of invasive lobular breast cancer: Change in diagnosis

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Introduction: NICE guideline number 80 recommends the use of pre-operative MRI for invasive lobular cancers. We conducted an audit on the use of MRI for lobular carcinoma to assess whether the diagnosis changed from unilateral to bilateral, from unifocal to multifocal and whether size changed.

Methods: This was a retrospective audit of all MRIs performed during the period April 2009- August 2011 for lobular carcinoma. Reports of MRI were obtained and compared with mammogram (X), ultrasound (US) and histology reports.

Results: In total 63 MRIs were performed for patients diagnosed with invasive lobular carcinoma (ILC). All diagnoses were confirmed with core biopsy and e-cadherine staining. Based on clinical examination, mammography and ultrasound (pre-MRI) 61 cases were unilateral and 2 cases bilateral (one bilateral ILC, one case contralateral DCIS, not visible on MRI). Post-MRI 8 cases had enhancement in the contralateral breast of which 4 cases had a new diagnosis of contralateral cancer confirmed with core biopsy and post-operative histology: one ILC, one IDC, one DCIS and one contralateral positive lymph nodes. One other case had a papilloma confirmed also on excision biopsy. 53 ILC were diagnosed as unifocal pre-MRI of which 19 had multifocal enhancement on MRIs. On post-operative histology 7 out of these 19 cases showed to have multifocal ILC, and 11 had unifocal disease. Of these 11 cases 4 had a mastectomy (sizes of ILC 55,33,22,22,20 mm) and 7 WLE. MRI predicted most accurately the size of the lesions for unifocal lesions: mean and median difference with histology size was for mammogram size 8.4 and 6 (22 cases with reported X size), for US 12.5 and 5.5 (42 cases with reported US size) and for MRI 0.5 and 0.5.

Conclusion: MRI diagnosed contralateral cancer in 6% (4/63) of cases. MRI showed a complex pattern of multifocal enhancement (type1-3) which did not translate in multifocal disease on histology in 17% (11/63) of cases. MRI was most accurate in predicting size of ILC lesions with just 0.5 cm mean and median difference with histology size. MRI is helpful in selecting ILC cases for breast conserving surgery as mammogram and US underestimate size.

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P056. Pre-operative axillary nodal assessment

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Introduction: Routine assessment of patients with breast cancer includes axillary ultrasound (US) and analysis of suspicious nodes. This permits pre-surgical staging, may guide neoadjuvant treatment and usually leads to axillary clearance (ANC). A number of patients who ultimately require ANC have falsely negative pre-operative assessment.

Methods: Retrospective analysis was performed of operations performed over a 32 month period, identifying patients with negative axillary assessment, positive sentinel node biopsy and recommendation to have ANC. Patient, tumour and ultrasound variables were collated.

Results: 51 patients were identified with node positive disease undiagnosed pre-operatively. Nodes seen on pre-operative lymphoscintigram correlated with nodes removed. 38/51 cases were invasive ductal carcinoma (IDC), 11/51 invasive lobular (ILC). There was a significant difference in size: ILC:34.7mm, IDC:19.8mm, p=0.0002. There was a significant difference between total number of positive nodes after ANC: ILC:4.27, IDC:1.39, p=0.0007. There was no difference between IDC and ILC in terms of grade, multifocality, presence of LVI. Three patients had final nodal stage N3: all had ILC with normal pre-operative US scans.

Discussion: ILC, due to its non-cohesive growth pattern, tends not to form distinct masses and distort architecture. Consequently, axillary US may be falsely negative. FNA of lobular metastases has high false negative rates due to difficulties identifying individual, discohesive cells. Currently, pre-operative axillary US is not targeted: targeting the SLN may allow intensive analysis, of particular value in ILC cases. Presence of high volume nodal disease with negative pre-operative tests throws into doubt applicability of conservative axillary management in patients with ILC.

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P057. Validation of the ACOSOG Z0011 results across a regional breast cancer network

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Introduction: Following Z0011 a more conservative approach to managing the axilla has been suggested. The aim of this study was to compare the results of axillary treatment across a regional cancer network with those published in the Z0011 study to ensure results are transferable to the UK.

Methods: Prospective collection of axilla surgery data across the Northern Cancer Network. Review of results to identify a sub-group of patient corresponding to the Z0011 criteria. Comparison of the results of axillary surgery with that published in Z0011.

Results: 482 axillary procedures were recorded on the database over a 6 month period. This included 427 t1-t2 tumours, 346 patients underwent a successful sentinel node biopsy (SNB) following negative pre-operative staging. 78 (22.5%) of the patients had positive sentinel nodes with 67 patients having 1-2 SN metastasis. Of this group 13 had no further axillary treatment, 17 received radiotherapy and 37 underwent a completion axillary node clearance (ANC). 5 (13.5%) patients had further disease in the axilla (3 patients 1 node, 1 patient 2 nodes and 1 patient 4 nodes).

Conclusion: In the group of patients which met the Z0011 criteria we have shown a lower residual disease rate compared to the published trial (13.5% c.f. 27%). An explanation for this is the use of thorough pre-operative axillary staging (USS +FNA/core) which directed some to an ANC. Based on these results it would be safe to adopt a conservative approach to the positive axilla in this group of patients fitting the Z0011 criteria.

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P058. Relapse and survival following triple negative breast cancer

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Introduction: There is intense interest in the management and survival of patients with Triple Negative Breast Cancer (TNBC). The aim of this study is to review the outcome of TNBC in a District General Hospital.

Method: The database was searched for all patients with TNBC over a 5 year period between July 2006 and June 2011. Their demographics, pathologic features and management were reviewed. Their 5-year overall

survival (OS) and breast cancer specific survival (BCSS) were estimated using the Kaplan Meier method.

Results: There were 116 tumours in 114 patients with a mean age of 62 years. Pathologic Grade: G1 1 (1%) G2 14 (12%) and G3 101 (87%). The mean pathologic size of 103 cases that had surgery was 2.4cm. Of these, 57 (49%) had breast conserving surgery while 46 (40%) had mastectomy. 40 cases (39%) were node positive. 11 patients (9.5%) did not have surgery. 69 (61%) patients received chemotherapy and 93 (82%) radiotherapy. The 5-year OS was 65% and BCSS 72%. For node positive patients 5-year BCSS was 56% compared to 88% in node negative cases. For chemotherapy vs. no chemotherapy the 5-year BCSS was 75% vs. 66%. 25 (22%) patients developed metastatic disease. The mean time to recurrence was 15 months.

Conclusion: TNBC is usually high grade with a high risk of early relapse and mortality which supports the current worldwide interest and studies on establishing the optimum management of these patients.

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P059. Are we doing enough to protect the bones of patients on aromatase inhibitors?

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Introduction: The use of aromatase inhibitors (AI) in the management of oestrogen receptor-positive (ER+) invasive breast cancer in post-menopausal women accelerates bone loss, increasing fracture risk. The 2008 UK consensus statement recommends baseline Dual Energy X-ray absorptiometry (DEXA) of the spine and hip. European guidelines published in 2012 require formal fracture risk assessment (FRAX) in addition to a DEXA scan, in keeping with NICE recommendations. Our 2010 audit demonstrated only 239 of 440 (54%) received a baseline DEXA scan. The aim of this study was to analyse the on-going adherence to the above standards within our unit.

Methods: The PACS radiology system was interrogated to identify subsequent DEXA scan results in the 239 patients treated with AIs for ER+ invasive breast cancer who had previously undergone baseline DEXA scan, between April 2009 and October 2010 inclusive.

Results: None of the 239 patients received a formal FRAX assessment. 75 of 239 (31%) patients had normal bone mineral density (BMD) at baseline. Only 66 of 239 (28%) underwent repeat DEXA scan at 2 years. Of these 26 of 66 (39%) had normal BMD and repeat DEXA was not indicated. Thus, only 40 of 239 (17%) had an appropriate repeat DEXA scan. Of the 66 re-scanned patients the median rate of bone loss per annum was -0.55% (range -4.7 to +8.5) and -1.4% (range -6.2 to +6.5), at the spine and hip respectively.

Conclusion: Our current practice does not conform at all to current European/NICE guidelines. Joint care with a bone protection specialist should improve patient care.

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P060. The sensitivity of enhanced pre-operative axillary staging using contrast enhanced ultrasound (CEUS) increases with tumour size and multifocality

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Introduction: Enhanced imaging of the axilla using CEUS can be used in pre-operative breast cancer patients to identify sentinel lymph node (SLN) metastases.

Methods: 381 patients with invasive primary breast cancer and normal grey-scale axillary ultrasound were included. Patients had enhanced pre-operative axillary staging using CEUS and an adequate core biopsy of visualised SLN. Patients underwent tumour excision and SLN removal or axillary clearance if metastatic cells were identified in the SLN.

Results: The sensitivity of enhanced pre-operative axillary staging using CEUS as a test to identify SLN metastases in T1 tumours was 45% (95% CI 39-51%). The specificity was 100%. The prevalence of LN metastases was 16%. The post-test probability that a patient had LN metastases given a negative (B2) SLN core biopsy for a T1 tumour was 9%. In T3 tumours, the sensitivity increased to 88% (95% CI 75-100%). The prevalence of LN metastases was 74%. The post-test probability that a patient had LN metastases given a B2 SLN core biopsy for a T3 tumour was 25%. In multifocal tumours, the sensitivity was 77% (95% CI 64-90%) and specificity 100%. The prevalence of LN metastases was 34%. The post-test probability that a patient had LN metastases given a B2 SLN core biopsy for a multifocal tumour was 11%.

Conclusions: Enhanced pre-operative axillary staging using CEUS is a useful tool to aid axillary surgical planning in breast cancer patients. The technique is especially relevant for patients with large or multifocal tumours with normal grey scale axillary ultrasound examinations.

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P061. The influence of PREDICT on chemotherapy/trastuzumab recommendations in HER2 positive patients with early breast cancer

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Introduction: PREDICT is an online prognostication tool for early breast cancer that includes both mode of detection and HER2 status, and provides absolute treatment benefits for hormone therapy, chemotherapy and Trastuzumab.

Methods: Women with HER2 positive early breast cancer over a five year period (n=193) were reviewed. Patients receiving neo-adjuvant therapy were excluded (n=77). Adjuvant chemotherapy/ Trastuzumab recommendations based on PREDICT (<3% *no benefit*, 3-5% *discuss treatment* and >5% *recommend treatment*) were compared with actual MDT decisions.

Results: 116 eligible patients were identified. Table 1 summarizes chemotherapy/ Trastuzumab recommendations.

Table 1
Chemotherapy/ Trastuzumab recommendations for all patients

MDT Recommendation	PREDICT benefit of adjuvant chemotherapy/Trastuzumab			
	<3%	3–5%	>5%	Total
No	6	8	**4**	17
Yes	**8**	22	69	99

The average age at diagnosis was 60 years, with 23 patients older than 70 years (20%). 4 patients PREDICTed to gain absolute benefit of >5% from chemotherapy/ Trastuzumab were not offered treatment (all 70+ years). Amongst 21 patients aged >70 years PREDICTed to benefit >3%, 6 were not offered treatment (29%).

In patients <69 years, there was evidence of over-treatment with adjuvant chemotherapy/Trastuzumab in 8 of 12 cases with <3% benefit using PREDICT.

For all 20 patients with ER negative tumours, the MDT and PREDICT decisions correlated, whilst for ER positive cases, more than half (8 of 14) were offered treatment despite <3% PREDICTed benefit.

Conclusions: PREDICT can aid decision making in HER2 positive early breast cancer. Over-treatment can be avoided in those with minimal estimated benefit, especially patients with ER positive disease.

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P062. Radiological staging of symptomatic high risk breast cancer patients is of limited value

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Introduction: There is no guidance regarding radiological staging of symptomatic high risk breast cancer patients. The aim of this study was to evaluate the usefulness of radiological staging and its impact on management.

Methods: We treated 398 patients from 05.2011 - 09.2012. In that period, 68 (17.1%) symptomatic breast cancer women (without symptoms of distant metastasis) were retrospectively evaluated. This included patients with $\geq$4 positive lymph nodes confirmed postoperatively and those receiving neoadjuvant chemotherapy. Thorax, abdominal and pelvic CT and bone scans were performed to look for distant metastasis.

Results: Staging CT scan was performed in 66 patients and a bone scan was done in 62 of these. The patients' median age was 54 years but ranged 33 – 87 years. CT scan showed abnormality in 23 patients (34.8%), of whom 1 (1.5%) had proven lung metastasis. The remaining 22 women underwent further imaging in which 1 (1.5%) was found to have bony metastasis and the remaining patients had either benign or indeterminate lesions who remain under radiological surveillance. The treatment outcome in both women with proven metastasis was changed. Of the 62 patients, 11 (17.7%) showed an abnormality on their bone scan all of which were proven benign changes on further imaging.

Conclusion: Radiological staging in symptomatic high risk breast cancer patients is of little clinical benefit and the rational of this practice is questioned in an era of scarce clinical and financial resources. Of note, the use of bone scan in staging these patients was of no value.

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P063. Dermal sling breast reconstruction in small volume breasts

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Introduction: Breast reconstruction with a dermal sling is typically used for women with large, ptotic breasts and redundant skin that can be de-epithelialised for lower pole implant coverage. Implant based reconstruction in the smaller breast is commonly performed using a dermal matrix/ prosthetic or total muscle coverage to cover the lower aspect of an implant. Dermal slings have the advantage of being vascularised and perhaps more forgiving in the presence of skin necrosis. We describe a novel technique for extending the use of dermal sling reconstruction for smaller volume breasts.

Methods: From May 2009 – present, women requiring mastectomy and reconstruction were offered dermal sling reconstruction if they had a minimum of grade I ptosis. Patients were marked pre-operatively for a wise pattern skin incision with a short vertical limb of 4-5cm. The skin inferior to this was fashioned as a dermal sling to cover a Natrelle 150SH expander implant. If post-operative expansion was necessary, this began 3 weeks post-operatively.

Results: Eight patients (nine breasts) with small breasts underwent breast reconstruction with a dermal sling. All eight patients had primary surgery for cancer with one patient having contralateral prophylactic mastectomy. Final implant volume to achieve symmetry was 140-350 ml (mean 237ml). Three breasts had minor T-junction necrosis, one had cellulitis which settled with antibiotics. No implant loss occurred.

Conclusions: Dermal sling reconstruction offers the advantage of lower pole implant coverage with a vascularised autologous sling. This can safely be extended for use in small breasted women by using an expander implant.

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P064. Vertical scar therapeutic mammaplasty - a future direction for oncoplastic breast conservation

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Introduction: Vertical Scar Therapeutic Mammaplasty (VSTM) has been advocated as an alternative treatment option for breast cancer in comparison to conventional breast conserving surgery (BCS) and other oncoplastic breast conservation techniques. However, there is a paucity of published data on VSTM that evaluates the oncological outcomes. A study was performed comparing re-excision rates of VSTM with published rates for conventional BCS.

Methods: An analysis of surgical outcomes following VSTM was performed from June 2009 to December 2012 at Royal Cornwall Hospitals NHS Trust from prospectively recorded electronic patient records. Patient demographic data, excised specimen weight, tumour size, histological diagnosis and re-excision rates were identified. These were compared with published outcomes for conventional BCS.

Results: 128 patients were identified who were treated with VSTM during the study period. All procedures were performed under the care of a single surgeon. The median age of patient was 61 and median specimen weight resected was 84g. Median tumour size was 20mm. 53 cases reported DCIS in the final histology (41.4%). 15 patients had close or involved margins requiring MDT recommendation for further surgery (11.7% re-excision rate).

Conclusions: These data support the use of VSTM as a safe and effective treatment option. The identified re-excision rate compares favourably with published rates for conventional BCS (approximately 20%). This has contributed to a reduction in the mastectomy rate at the study institution. Further data are required to confirm the long-term oncological outcomes.

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P065. Defining the role of primary endocrine therapy in the management of the older breast cancer patient

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Introduction: Recent data suggest that primary endocrine therapy (PET) is over-utilised in the management of breast cancer with age the main determinant of use.

Methods: A retrospective analysis of breast cancer patients diagnosed between July 2011 and June 2012 was performed using prospectively collated electronic patient records to identify patients treated with PET. Patient demographics, mortality rates, progression rates and clinical review intervals were identified. Results were compared against NICE QS12 guidelines. The Charlson co-morbidity index (CCMI) was used to calculate projected 10-year survival for patients receiving PET.

Results: 352 patients were diagnosed with invasive breast cancer. 45 (13%) were managed with PET (mean age 81.5). First clinical review scheduling was variable (6-26 weeks). 28 patients demonstrated evidence of response/no clinical progression (62%). 9 (20%) patients died and 5 (11%) patients had no clinical review. 2 patients showed evidence of disease progression. A further 69 patients aged over 70 were treated surgically (mean age 78). The CCMI gave only 3 patients 2% chance of survival at 10 years.

Conclusions: These data suggest that patients are appropriately commenced on PET and are not selected on the basis of age, in accordance with NICE QS12 guidelines. The need for standardised follow-up and consistent nurse-led intervention was identified within a clear pathway of care, which has been developed as a result of these findings. The CCMI is too broad an assessment tool to be of use in patient selection for PET and the VES-13 assessment tool is currently being evaluated as an alternative.

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P066. Immediate breast reconstruction does not increase post-mastectomy pain

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Background: Post mastectomy pain syndrome (PMPS) is a recognised complication of breast surgery with a reported prevalence of 20-52%. There are few studies that have examined the impact of immediate reconstruction on PMPS. The aim of this study was to establish whether patients having immediate reconstruction reported more long term pain.

Methods: Patients who had undergone mastectomy alone or with immediate reconstruction between 01/01/2009 and 01/06/2011 were identified. All patients from this group who attended a follow up clinic between 01/02/2012 and 05/07/2012 were approached and asked to complete 2 questionnaires – a pain intensity scale and a screening tool for neuropathic pain.

Results: 318 patients were due to attend and 272 (86%) submitted complete questionnaires. 136 (49%) women had undergone immediate reconstruction using implants, pedicled and free flaps. The overall point prevalence of neuropathic pain was low – 24 patients (9%) had positive or intermediate scores. There was no significant difference in neuropathic pain between patients having mastectomy alone (n=9, 6.5%) or with immediate reconstruction (n=15,11.2%). Using the pain rating scale 81% of patients (n=221) reported their current pain intensity as zero. Only 8 patients (3%) reported a score of 5 or above.

Conclusions: The prevalence of PMPS in patients who have had a mastectomy is lower than historic reports. Immediate reconstruction does not increase chronic neuropathic pain after mastectomy and does not increase overall levels of pain intensity. This is despite additional tissue dissection and potential donor site morbidity. This adds further support to the positive benefits of breast reconstruction.

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P067. Pre-treatment axillary staging can reduce the need for axillary lymph node clearance (ALNC) in patients undergoing neo-adjuvant therapy for breast cancer

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Introduction: In patients undergoing neo-adjuvant chemotherapy, staging of the axilla prior to treatment may spare them an unnecessary axillary clearance post treatment. In February 2011 our centre introduced ultrasound (+/- FNA) and, if negative, sentinel lymph node biopsy (SLNB) for all neo-adjuvant patients prior to commencing treatment. This study aimed to assess the impact of this change in practice on this cohort of patients.

Method: retrospective database of patients, from a single MDT, receiving neo-adjuvant chemotherapy, for breast cancer between 2009 and 2012 was created using chemotherapy, surgical and MDT databases. Each patient's electronic records were interrogated using a standardised datasheet.

Results: 84 patients (with a mean age at diagnosis of 55) who received neo-adjuvant treatment for breast cancer were identified. 6 patients with widespread metastases and 7 still receiving chemotherapy had not completed axillary staging and were excluded.

19 patients started treatment prior to February 2011 and 52 had been treated since then. All patients in the pre-February 2011 group underwent an axillary clearance, although only 6/19 (32%) had positive nodes.

Since February 2011, 15/52 patients (29%) negative on both ultrasound and SLNB were spared an ALNC. 37/52 patients (71%) had positive LN nodes demonstrated on either USS or SLNB before subsequently having an ALNC. 29/37 (78%) of this group had further positive non-SLNs identified.

Conclusion: This study has demonstrated that the use of axillary USS and SLNB prior to neo-adjuvant treatment has reduced our negative ALNC rate and allowed for the identification of patients who can be spared an axillary clearance.

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P068. Incidental findings in CT angiograms for free DIEP flap breast reconstructions – do they change our management?

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Background: Abdominal CT angiography (CTA) has become an integral part of the pre-operative evaluation of patients undergoing free DIEP flap breast reconstructions. It aids accurate delineation of perforator anatomy, assists pre-operative decision making and reduces operative time. However, such detailed imaging invariably yields a variety of incidental findings, with quoted figures of 13-36% in this setting. The purpose of this study was to identify the rate of "incidentalomas" when using a DIEP CTA "staging protocol" and review how such findings influence our management.

Method: A retrospective review was performed, looking at pre-operative scans of 154 consecutive patients undergoing free DIEP flap breast reconstructions between July 2008 and June 2012.

Results: Of 154 CT angiograms reviewed, 116 (75.3%) demonstrated incidental findings. In 71 patients (46.1%), these "incidentalomas" were inconsequential. However, in 37 patients (24.0%) the CTA prompted further investigations, and in a further 8 patients (5.2%) metastatic disease or other significant pathology was discovered which changed the operative plan.

Conclusion: The overall rate of "incidentalomas" presented in this study is substantially higher than other published series, and significantly altered the surgical management plan in 5.2% of cases. As such we advocate that a DIEP "staging" CTA used pre-operatively is useful for more than just delineation of vascular anatomy.

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P069. Proteomic identification of putative biomarkers of breast neo-adjuvant chemotherapy resistance

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Background: Neo-adjuvant chemotherapy has become a standard treatment for locally advanced breast cancer as it allows disease downstaging and facilitates breast conservation surgery. However, resistance to chemotherapy can be a major obstacle in delivering an effective neo-adjuvant treatment in oestrogen receptor positive breast cancers. Using comparative proteomic approaches (antibody microarray and 2D gels with mass spectrometry) to investigate a pilot series of fresh tumour samples we have recently identified and validated 14-3-3 theta/tau, tBID and BcL-XL as putative biomarkers of response to anthracycline-taxane neo-adjuvant chemotherapy.

Aims: We aimed to further expand the list of identified putative biomarkers of neo-adjuvant chemotherapy resistance in luminal A (ER+) breast cancers using further fresh tumour samples and an antibody microarray proteomic approach. Selected proteins from the panel will be taken

forward for pilot clinical validations using a pre-treatment archival samples series to confirm the clinical relevance.

Materials and methods: Samples from chemotherapy resistant and chemotherapy sensitive breast cancers were selected after receiving anthracycline based neoadjuvant therapy consisting of epirubicin with cyclophosphamide followed by docetaxel. A total of 4 comparative proteomic experiments were performed using invasive ductal oestrogen positive (luminal subtype) tumours. Differential protein expression was compared between chemotherapy resistant and chemotherapy sensitive tumour samples using the Panorama XPRESS Profiler725 antibody microarray kit containing 725 antibodies from a wide variety of cell signalling and apoptosis pathways. The combined data from all experiments was analysed using Ingenuity Pathway Analysis (Ingenuity Systems).

Results: Antibody microarray analysis revealed 89 differentially expressed proteins which demonstrated at least 1.8 fold differences in expression in chemotherapy resistant tumours. 16 of these proteins (DR4, E2F6, ILK, MeCP2, MyD88, PI19INK4d, PRMT2, BID, FANCD2, FAKp-Tyr577, Pinin, Zyxin, 14-3-3 theta/tau, BcL-xL, Pancytokeratin and RIP) were found in at least 2 experiments.

Conclusion: In addition to our previously identified panel of biomarkers from the pilot series, we have now identified a further 13 proteins that could potentially have a role as predictive biomarkers of neo-adjuvant chemotherapy resistance in breast cancer. Clinical validation of these biomarkers is currently underway.

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P070. Pre-operative assessment of axillary lymph nodes in patients with early breast cancer

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Preoperative assessment of patients with breast cancer requires clinical examination and imaging of the axilla. Imaging is best performed with ultrasound. Nice (2009) guidelines recommend preoperative sonographic imaging of the axilla.

The primary aim of the study was to determine the impact of preoperative FNAC/Core biopsy of axillary lymph nodes on re-operation rates for positive sentinel nodes. In addition, retrospective review of histological features was undertaken to ascertain whether there were any predictive factors for lymph node involvement.

All patients in our institution requiring axillary node clearances (AC) after sentinel node biopsy (SNB), between August 2008 and August 2011, were identified.

The imaging, clinical records and histology reports of cases were reviewed retrospectively.

Additional data collected from the preoperative core biopsy histology and final histology included: ER, PR, Her-2 status; tumour size; tumour grade; tumour type; presence of lymphovascular invasion;presence of multifocality; and final lymph node status.

A total of 663 patients were identified. Of these, 190 patients were listed for SNB. 59 patients required AC. The overall rate over the 3 year period of patients undergoing an AC following a SNB was approximately 31.05%. Between 2010 and 2011 the unit performed imaging in all patients listed for SNB, reviewing the axillae preoperatively and the rate of SNB to AC in this final year was 29.23%.

In the cohort requiring AC after SNB, the mean tumour size was 27mm. The presence of lymphovascular invasion in this group, especially on final histology was 62.7%. The presence of multifocality was 15.8% overall. The majority of the tumours were grade 2 infiltrating ductal carcinomas, although there was a high incidence of grade 3 tumours of 22.03%. The percentage of tumour with ER positivity was 62.7%, although interestingly there was high incidence of progesterone receptor negativity, 35.5%. Her-2 status was similar to the general breast cancer population, being 13.56%.

58% of the patients with a positive sentinel node had only one lymph node involved after axillary clearance.

On final comparison of the SNB-only group and SNB to AC group, the mean tumour size of the latter cohort was larger (27mm vs. 16.2mm); had a higher incidence of lymphovascular invasion (62.7% vs. 2.57%); more cases of multifocality (15.8% vs. 5.2%);higher rate of DCIS (42% vs. 39%) and PR negativity (31% vs. 26%).

Patients with multifocal disease and larger tumour sizes on preoperative imaging require careful assessment and biopsy of any indeterminate nodes found on imaging. Lymphovascular invasion on core biopsy is a strong predictor of sentinel node involvement.

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P071. ROLL failure rates for occult breast lesions: What lessons learnt – internal audit

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Background: We have used Radioisotope Occult Lesion Localization (ROLL) of breast lesions at our unit since 2002. Literature reports failure rates of 4 – 10% for Wire Guided Localisation (WGL). Ours is the first reporting of the difficulties with ROLL (UK) and lessons learnt from it.

Method: A consecutive series of patients underwent ROLL during 2002-12. Successful localisations on imaging but failing to show abnormality in the specimen after excision were defined as failed localisation. Variables resulting in the failure were scrutinised and risk factors identified.

Results: 618 ROLLs were performed. 135 ROLLs were stereotactic & 483 US-guided. 13 / 618 (2.1%) localisation failed on first intervention; 9/13 stereotactic guided & 4/13 US-guided. Failure with stereotactic localization was 9/135 (6.6%). The mean size of missed lesions was 7.7mm. The lesion location was the main risk factor for failure. In 5 cases, no obvious cause for the miss was found and was assumed to be incorrect Z axis depth calculation. All cases with DCIS or invasive malignancy were successfully excised on second intervention. 0.8% (4 / 483) US-guided failed. The causes of US-guided failures were: large haematoma obscuring the lesion; partial removal of the lesion during core biopsy and presumed incorrect positioning of the injection needle tip and dispersion of the isotope.

Conclusion: Failure rate of ROLL (2.1%) compares favourably with published data for WGL. In our experience ROLL is by far superior technique with better failure rates better than WGL.

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P072. One stage breast reconstruction using the inferior dermal flap, implant and free nipple graft

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Introduction: Immediate breast reconstruction is becoming an increasing popular preference for women who undergo a mastectomy. The inferior dermal flap with implant and free nipple grafting is a useful reconstruction option. This one-stage procedure makes use of an autologous

inferior sling, thereby avoiding the potential morbidity of prosthetic mesh and requiring a shorter operating time in comparison with more complex reconstructive techniques.

Method: A prospective database recorded a single surgeon's experience in 16 patients (19 breasts) from 2010 to 2012. Reconstruction was performed following a Wise pattern skin incision. An inferior, de-epithelialised dermal sling was sutured to pectoralis major to form a pocket for a silicone implant or tissue expander. A free nipple graft was sited at the time of reconstruction with retroareolar biopsies taken.

Results: Average age was 54 (range 36-66). Six mastectomies were for DCIS, two for lobular carcinoma, six for invasive carcinoma and five were prophylactic. Average operative time was 165 minutes. Four breasts developed superficial wound infections. Three nipples encountered partial lower pole necrosis, but healed conservatively. There were no immediate complications requiring re-operation. All retroareolar biopsies were benign and no locoregional recurrences have occurred.

Conclusion: The inferior dermal flap with implant and free nipple graft is an excellent single-stage reconstruction option. This method offers a potentially safe, reliable and aesthetically acceptable outcome for women with larger, ptotic breasts.

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P073. Analysis of immediate breast reconstruction with the use of titanized polypropylene mesh (TiLOOP® Bra)

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Background: Breast cancer surgery has changed over the past decades. New surgical strategies have generated advanced methods concerning oncologic safety combined with improved cosmetic results. A number of publications outlined that the application of tissue-supporting materials result in improved cosmetic outcome.

Even the AGO guidelines have added the application of tissue-supporting extraneous materials to the section of reconstructive breast surgery in the year 2011.

Material and methods: The authors prospectively studied the feasibility, rate of complication and cosmetic outcome of 87 performed combined skin-sparing mastectomy and immediate prosthetic breast reconstruction with the usage of TiloopBra mesh.

Data such as body mass index, nicotine abuses, diabetes mellitus and others were taken into account. Also rate of postoperative infection, hematoma, seroma, time of drainage and antibiotic therapy were assessed.

Results: 87 patients with a median age of 45.6years (26 to 76) were evaluated. 82.8% of the patient collective had an oncologic operative indication.

The average prophylactic antibiotic therapy was applied 3.6 days and median drainage duration was 4.7 days.

Mastectomy weight averaged 307.8g (181-820g); implant volumes ranged between 125 and 680 cm^3 (median 327 cm^3).

We recorded an infection rate of 10.3% (only light superficial skin infections), postoperative hematoma rate of 17.2% and 9.2% of postoperative seroma.

Conclusions: This analysis showed that the application of titanized polypropylene mesh in immediate reconstructive surgery results in an excellent cosmetic result with greater flexibility in forming the former breast shape. It is a safe procedure with a low rate of complications.

Additional follow-up data are now required to assess further data on the cosmetic outcome, patients' satisfaction and oncologic safety.

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P074. Is it possible to safely identify patients who have undergone needle biopsy and do not need discussion at a breast multidisciplinary meeting?

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Introduction: New patients presenting to a breast clinic will undergo triple assessment. Guidelines recommend that MDT discussion should be considered for all cases having a needle biopsy when the diagnosis is not clearly benign (ABS at BASO 2009). In our unit each element of triple assessment is given a value of 1-5 dependant on the level of suspicion for malignancy and cases only discussed at the MDT if any one value is 3 or greater. The purpose of this review is to ensure patient safety and that there is not delayed diagnosis of breast cancer due to lack of discussion.

Methods: The pathology database was searched for all breast needle biopsies for the year 2007 and the breast MDT minutes reviewed to discover which had not been discussed. The pathology database and electronic patient notes were searched for the subsequent five years for these patients, looking for evidence of a diagnosis of breast cancer.

Results: In the year 2007, 733 needle biopsies were performed. 411 (56%) were discussed at the MDT with 176 (24%) having breast cancer. 322 (44%) were not discussed as no one assessment value was 3 or greater. Out of this 322, 48 (15%) represented to the breast clinic and 4 (1.2%) were diagnosed with breast cancer between 22 and 43 months later.

Discussion: This figure of 1.2% is similar to other studies, Shin et al (2006) followed patients up after a benign breast biopsy and 1.9% were diagnosed with breast cancer after 2 years. The results from this study are slightly better especially as the follow up was for 5 years. For this reason we feel our selection of cases for discussion is safe and can be continued.

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P075. Do mammograms aid the diagnosis of breast cancer in symptomatic young women?

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Introduction: There is a variation in guidelines that exist regarding the investigation of symptomatic women aged 35-39 years old via mammography. Our aim was to define whether mammography was useful in aiding the diagnosis of breast cancer in this age group.

Methods: An audit was performed at a single centre. Review of all imaging of 35-39 year old women presenting to the outpatient clinic between April 2011- 2012 with comparision of mammogram and ultrasound grading.

Results: 175 women aged 35-39 were referred in 1 year. All underwent mammography. 3 cancers were diagnosed. All were detected on ultrasound. Of 31 patients diagnosed with breast cancer over a 7 year period all presented with lumps and were diagnosed on ultrasound.

Conclusions: Mammography gave no diagnostic benefit in this age group over ultrasound. Ultrasound and core biopsy should remain the gold standard investigation of choice in this age group.

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P076. Multifocal and multicentric breast cancer identified incidentally following pathological evaluation: Clinical significance compared with radiologically apparent multiple foci

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Introduction: Standard pre-operative imaging can miss around 40% of multifocal (MF) and multicentric (MC) breast cancers. Radiologically occult MF/MC disease may not be equivalent to MF/MC tumour detectable on pre-operative imaging.

Method: Retrospective case note review of 1707 consecutive patients who underwent breast cancer surgery at University Hospital Southampton. MF disease was defined as two invasive components separated by normal tissue <5cm apart and MC as >5cm apart.

Results: 208 (12.2%) of patients were diagnosed with MF/MC disease (158 (76.0%) MF, 50 (24.0%) MC). 92/208 were identified as having MF/MC disease on pre-operative imaging.

Secondary foci were significantly larger (11.9mm (standard deviation (SD) 6.48; range 1-34mm) vs. 7.4mm (SD 6.48; range 1-38mm)); P=<0.001) and lymph node metastasis was more frequent (54/92 (58.6%) vs. 51/116 (43.6%), Hazard Ratio 1.81 (95% Confidence Interval (CI) 1.04−3.15); P=0.036) if MF/MC disease was identified pre-operatively.

17/92 (18.48%) of radiologically apparent MF/MC disease developed recurrence compared with 14/116 (12.1%) of those undetected pre-operatively. Mean disease free survival (DFS) in women identified as having MF/MC disease on pre-operative imaging was reduced; 38.3 months (95% CI 33.8-42.9) vs. 43.2 (39.8-46.5),P=0.39. The size of the second largest foci did not predict survival. No significant difference in mortality was seen (8/92 (8.70%) vs. 6/116 (5.17%)).

Conclusion: MF/MC disease detected following standard pre-operative imaging has a higher rate of lymph node involvement and worse DFS than radiologically occult MF/MC cancers. The presence of radiologically occult MF/MC cancers may not be as prognostically adverse as radiologically apparent disease.

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P077. Development of a breast surgical simulator to improve training in surgical oncology − preliminary validation

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Background: Working time restrictions and pressure on operating room (OR) efficiency have curtailed training opportunities. This has led to increasing interest in simulation training. However, trainees in breast surgery do not have access to inanimate models on which to safely practise their craft.

Aims: To develop and validate a high-fidelity surgical simulator for the training and assessment of skills in wide local excision (palpable) and wire-guided wide local excision (impalpable − work in progress)

Methods: Trainees and consultants were invited to perform a wide local excision of 25mm palpable breast lesion located 30mm from the nipple areolar complex in the 3 'o' clock position, on a synthetic breast simulator developed in-house. Procedures were videotaped (blind) and were retrospectively reviewed and independently rated against procedure-specific ratings of performance (VAS) by two expert breast surgeons. Subjects completed a comprehensive questionnaire evaluating simulator content and face validity.

Preliminary Results: 8 subjects have participated to date (2 consultants, 3 registrars, and 3 junior trainees). Data were analysed according to experience (high=>50 independent wide local procedures; low=no independent wide local procedures). Significant differences in performance were observed between high and low experience surgeons [e.g. skin flap development: low=41.0±9.1, high=84.4±5.8,p<0.001; resection skills: low=36.3±10.2, high=87.7±5.2,p<001]. The majority of subjects perceived the model as realistic (87.5%) and agreed that training on the model was likely to be useful for performance in the OR (87%).

Discussion: A simulator for wide local excision has been developed. Pilot data suggests the simulator may be construct, face and content valid, and useful for training.

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P078. Symmetrisation procedures constitute a significant proportion of reconstructive work load in breast cancer patients undergoing reconstruction in our DGH

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Introduction: In breast cancer patients undergoing oncoplastic/reconstructive surgery, achieving symmetry is of considerable importance. The aim of our study was to evaluate what proportion of our oncoplastic/ reconstructive workload symmetrisation procedures represented.

Patients and methods: A retrospective review of a prospectively collected dataset of breast cancer patients undergoing reconstructive procedures from April 2005 to April 2012.

Results: 153 patients had symmetrisation procedures to the contralateral breast during this period. The median age was 53 years (22- 79). Overall, it represents approximately one third (153/489; 31.2%) of all the major reconstruction procedures in this unit. The median hospital stay for the above group was 2 days (1-8).

Table

Reconstruction surgery		Number
Reconstruction following breast cancer surgery	LD reconstruction (autologous & implant assisted)	76
	Implant based reconstruction	260
Symmetrisation procedure	Reduction mammoplasty	94
	Mastopexy	34
	Augmentation mammoplasty	25
Other	Nipple reconstruction	60

Conclusion: Almost half the patients (153/336) undergoing breast reconstruction required a symmetrisation procedure to the contralateral breast. This constitutes a significant proportion of our workload. Consideration must be given to this when planning the resources, workload and training required for an oncoplastic breast practice.

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P079. Intraoperative assessment of the sentinel node in breast cancer reduces time to commencement of adjuvant chemotherapy

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Introduction: Intra-operative assessment (IOA) of the sentinel lymph node (SLN) allows immediate axillary node clearance (ANC) in patients with lymph node metastases. Avoiding a delayed ANC could potentially

allow adjuvant chemotherapy to commence sooner. Touch imprint cytology (TIC) provides a quick, highly specific and inexpensive IOA.

Delays in commencement of chemotherapy could adversely affect both prognosis and survival. The aim of this study was to investigate the time interval between initial breast cancer surgery and starting chemotherapy.

Method: Data were collected for all patients diagnosed with invasive breast cancer and normal pre-operative axillary imaging at the Warwick Breast Unit. 460 consecutive patients with breast cancer underwent IOA of the SLN by TIC and subsequent conventional histopathological examination. Patients with positive IOA had an immediate axillary node clearance, whereas patients with a false negative result on TIC underwent ANC as a delayed procedure.

Results: 97 patients had positive sentinel lymph nodes on histopathological analysis. These were detected in 46 patients by TIC (sensitivity 47%), all of whom underwent immediate ANC. 28 of these patients were given adjuvant chemotherapy, which was started on average 52 days after surgery (range 26-93 days). Delayed ANC was performed in 34/51 patients, 19 of whom had chemotherapy, commenced after a mean interval of 75 days (35-106 days).

Conclusions: Intra-operative SLN assessment reduces the time to adjuvant chemotherapy by a mean of 23 days (30% reduction), allowing the patient to progress through the breast cancer treatment pathway more quickly.

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P080. The breast cancer lifetrack: A powerful visualisation and analysis tool for clinical episodes from diagnosis to final outcome in the individual electronic patient records of 13,000 breast cancer patients

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Introduction: The NCIN has recently recognised the importance of understanding the interactions between complex multidisciplinary treatments and therapeutic outcomes in terms of local recurrence and metastasis in breast and other cancers.

Methodology: We have built de novo (in SQL) a web-enabled, timeline structured data system to consolidate card index data on all patients presenting to our unit since 1979 with a wide range of subsequent manual, research and computerised records with progressively more detailed information. During 2012, some 13,000 patient records have been consolidated into this system for immediate recall, updating and analysis. Key features of the system include an episodic timeline, the Cancer LifeTrack, and recording of the date and cause of death wherever records are traceable. Colour coded symbols identify episodes and laterality of events along the Track (e.g. green for right, red for left breast), to include primary presentation, local recurrence, metastasis, other malignancy and cause of death.

Results: The 13,000 LifeTracks reveal the sequential and analytical complexity inherent in many case histories, and provide powerful tools for cohort visualisation and the study of intervals and durations between episodes in relation to treatment inputs

Conclusion: Information technology provides transformational tools for the collation and analysis of the complex temporally structured data arising from clinical events and therapeutic inputs in breast cancer and other chronic diseases. We believe our system to be "first in class" of a new generation of tools to make such data collection and analysis commonplace in Multi-Disciplinary Team decision assistance and other applications.

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P081. The cost to a DGH of the PIP implant saga

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Introduction: The PIP implant scare early in 2012 prompted the government to offer assessment on the NHS of any woman with concerns about her implants. This included imaging and explantation without replacement of implants found to be ruptured or for women with significant concerns.

This audit looks at the cost of this extra work to the NHS at a single DGH.

Methods: Data was prospectively collected from all patients referred with implant symptoms or concerns from the onset of the PIP implant scare in February 2012 to the present. The type of implant was not always known so all new implant referrals were included. This extra activity was then costed.

Results: 79 women were assessed in 10 months. 48 were confirmed PIPs, the others unknown or had attended as a result of the publicity. 74 had private augmentation, 8 abroad. All had imaging with ultrasound and mammogram (if over 35). 22 had signs of rupture on routine imaging. 4 patients required an additional MRI for clarification. The total cost of assessment and imaging is £14,944.56.

15 returned to their private providers for consideration of explantation. 26 were referred to our surgeons to discuss surgery. 23 were seen by a consultant, 3 did not attend (£2,241.12).

11 NHS explants have been performed at a total cost of £15,316.

Conclusions: The NHS cost of assessing and treating 79 women during this period was £32,501.68. This does not include breast care nurse and secretarial time fielding phone calls from anxious patients.

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P082. Clinical and phenotypic characteristics of core biopsy diagnosed pleomorphic lobular carcinoma-in-situ in a UK population (PLCIS)

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Introduction: The appropriate clinical treatment for patients with PLCIS is unknown. Current consensus is that these lesions closely resemble high-grade DCIS pathologically and should be treated in a similar manner.

Methods: Retrospective audit of all patients diagnosed with PLCIS between January 2000 and December 2012. Patient data was sourced from a prospective pathology database. Patient electronic and paper records were hand searched.

Results: Patient ages ranged from 48-79 (mean 63). 17 patients were diagnosed with PLCIS. Three patients presented with a symptomatic lump and 14 were screen detected. Core biopsies showed pure PLCIS in three patients, seven patients with PLCIS and ductal carcinoma-in-situ and seven patients with PLCIS and invasive carcinoma. All patients underwent definitive cancer surgery with wide margins. Final histology showed 64% patients with PLCIS and invasive carcinoma, pure PLCIS in 18% patients, 18% patients with PLCIS and carcinoma-in-situ.15 patients were ER/PR positive and two negative. Ki-67 staining had a mean of 17.6% (range 1-33). One patient had Her-2 positive PLCIS. There were no local or systemic recurrences over the follow-up period (mean 42 months). 16 patients had clear margins >2mm, 1 patient requiring re-excision.

Conclusions: This is the largest series of PLCIS reported in the UK. These lesions are generally of Luminal A sub-type being low in Ki-67, Her-2 negative and ER/PR positive.

PLCIS is almost universally associated with DCIS or an invasive lesion, therefore the recommendation of excision with clear margins would seem reasonable.

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P083. Doctors with breast cancer are more likely to opt for mastectomy: fact or fiction?

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Introduction: Doctors who are diagnosed with breast cancer make up a small but unique subset of women owing to their medical knowledge. Anecdote suggests that doctors with breast cancer are more likely to opt for mastectomy than non-medically qualified patients.

The primary aim of this study was to compare mastectomy rates in medically-qualified doctors with degree-educated controls with breast cancer.

Methods: This study has research ethics approval. Patients were diagnosed 1/1/2006 and 31/12/2011 and had signed a generic research consent form. They were screened by occupation independently by 2 investigators to identify medically-qualified doctors and suitable controls (teachers, lawyers etc). Those with a clinical background (nurses, physiotherapists etc) were excluded. Doctors and controls were compared by age, tumour characteristics and treatments given using Student's t test for continuous variables and Fisher's exact test for categorical variables.

Results: 56 medically qualified doctors and 240 controls were included. None of the differences were statistically significant. Results are shown in the table:

	Controls, n (%)	Doctors, n (%)	p
Age (mean)	54 years	53 years	0.61
Mastectomy	86 (36)	22 (41)	0.53
Total tumour size	36mm	33mm	0.65
Node positive	53 (37)	16 (36)	1.00
ER positive	186 (81)	45 (88)	0.31
Her 2 positive	74 (32)	12 (24)	0.05
Chemotherapy	122 (51)	23 (41)	0.24
Post-mastectomy RT	43 (50)	7 (32)	0.47

Conclusions: Doctors were not statistically more likely to undergo mastectomy than controls. However, the higher mastectomy rate and lower post-mastectomy radiotherapy rate may suggest that some are opting for mastectomy for less advanced disease.

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P084. Is Lymphatic endoglin expression a risk marker for breast cancer metastasis?

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Background: Studies have identified endoglin as a biological marker that is over-expressed on the micro vessels of certain solid cancers (breast, colorectal cancer and head and neck squamous cell cancers). There is, at present, no immunohistochemical marker that can discriminate between lymph node negative and/ or lymph node positive breast cancer tissue.

Methods: The expression of endoglin was quantified by immunohistochemistry and assessment of microvessel density in 53 surgical specimens. These were comprised of breast tumour tissue that had not spread to the regional lymph nodes (lymph node negative breast tumour tissue - 20 specimens), breast tumour tissue that had spread to regional lymph nodes (lymph node positive breast tumour tissue - 21 specimens) and normal breast tissue as a control (12 specimens)

Results: Significant difference was observed between the expression of endoglin on micro vessels of lymph node negative and lymph node positive breast cancer tissue ($P < 0.05$). This significant difference was shown to be due to endoglin expression on lymphatic vessels ($P < 0.02$), rather than on blood vessels ($P > 0.05$).

Conclusions: These findings are the first to suggest that endoglin expression on breast tumour lymphatic vessels may have diagnostic potential as a discriminator between lymph node negative and lymph node positive breast cancer. Further studies would be required to confirm this

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P085. Predictors for metastatic spread, survival and the impact of age in breast cancer

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Introduction: Predictors for site of metastasis and impact on survival in breast cancer remains largely unknown.

Methods: Clinico-pathological risk factors for site of metastasis and survival were analysed in patients treated between 1986 and 2006.

Results: Of 3504 patients, 23% developed metastasis. The site of metastasis was bone in 16%, bone plus viscera within 6 months (bone + 2nd site) in 28%, viscera in 45% and unknown in 11% of patients. Median follow-up was 6.31 years. Nodal positivity, larger tumours and higher grade increased risk of metastasis to all sites. Hormone receptor positive tumours and lobular carcinoma were more likely to metastasize to bone whilst HER2 positive tumours more likely to metastasize to viscera. With increasing age, there was a significant decrease in risk of developing bone metastasis in all age groups.

The median time to death (beyond the stipulated 6 month in the inclusion criteria) was 1.75 (0.88-3.16) years for bone metastases, 0.81 [0.34-1.68] years for bone + 2nd site and 0.85 [0.30-1.90] years for visceral metastasis only. On multivariate analysis, there was a shorter time to death in patients with metastasis >70 years (bone only and bone + 2nd site), 4+ node positive (viscera only), or higher grade (bone only), while hormone positivity was associated with longer survival (bone + 2nd site).

Conclusion: These findings indicate that treatment strategies that prevent and treat bone and visceral metastases should be considered. The biological mechanisms underlying the decreased risk for development of bone metastasis with increasing age merit further investigation.

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P086. Patient reported outcome measures following therapeutic mammoplasty and breast reconstruction

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Introduction: One of the main goals of reconstructive and oncoplastic breast surgery is to satisfy patients and improve their quality of life (QoL). Therefore it is important to assess the patient experience by means of Patient-Reported Outcome Measures (PROMs), focusing on the patient's perception of the surgery and surgical care, as well as psychosocial well-being and physical functioning. To date, PROMs after therapeutic mammoplasty have not been assessed using validated questionnaires.

Aims & methods: The Breast-Q™ Questionnaire used in this study is a validated PROMs questionnaire developed jointly by the Memorial Sloan-Kettering Cancer Center and the University of British Columbia. The aim of the study was to identify factors that contribute to overall patient satisfaction after therapeutic mammoplasty and compare responses to a group of patients who underwent breast reconstruction under the same breast surgeon.

Results: Response rate was 64%. 17 patients had a therapeutic mammoplasty, 22 patients had a breast reconstruction, either implant-based or using autologous flap or both. In both patient groups, satisfaction correlated with sexual and psychosocial well-being. Only in reconstruction patients did satisfaction correlate with cosmetic outcome. Overall, mammoplasty patients were more satisfied than reconstruction patients (89% vs 75%, $p = 0.02$). This association remained statistically significant after adjusting for cosmetic outcome, psychosocial and sexual well-being, and information received. Satisfaction did not correlate with the incidence of post-operative complications.

Conclusions: To our knowledge, this is the first study assessing PROMs after therapeutic mammoplasty using a validated questionnaire. In future, PROMs can complement clinical outcome measures and facilitate comparison of patient groups undergoing different types of surgery.

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P087. Neoadjuvant chemotherapy for breast cancer in a UK cancer network.

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Introduction: The indications and practice in patients with neoadjuvant chemotherapy (NAC) for breast cancer needs auditing to assess criteria and expectations with this treatment. The management of the axilla in such patients is a hot topic at present.

Methods: A prospective audit of neoadjuvant chemotherapy for breast cancer in a UK Cancer Network (8 breast units) September – December 2011. Patients are audited in regard to indication for neoadjuvant chemotherapy, conversion to Breast Conservation (BCS), management of the axilla and response.

Results: Total of 66 patients received neoadjuvant chemotherapy, 19 for downstaging, 25 for locally advanced breast cancer, 16 other, 6 diagnosed with metastatic disease or died after diagnosis, 8/19 converted to BCS. Response was complete, partial, stable disease or disease progression in 10, 35, 2 and 1 patients respectively.

Management of the axilla: 11 patients had sentinel node biopsy (SLN) prior to NAC, 10 after NAC and 32 had axillary dissection.

There is a variation in indications and management of the axilla between different units in the network.

Conclusions: The practice and concept on NAC between different units in a UK cancer network is discussed with the aim to standardise the protocol within the network.

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P088. Use of acellular dermal based matrix (Strattice™) in breast reconstruction: Our experiences and lessons learnt

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Introduction: The use of Strattice™ (LifeCell Corp., Branchburg, NJ) assisted implant-based breast reconstruction is now an established technique in immediate and delayed breast reconstruction. The porcine derived acellular dermal matrix is used to reinforce the lower pole, provide implant coverage and provide reliable control of implant position. In our centre we have been using this technique since 2010. This retrospective study provides an insight into our experiences and lessons learnt.

Methods: Retrospective data collection including all patients who underwent strattice based reconstruction from July 2010 to December 2012 in a district general hospital. This included patient demographics, operative technique and parameters, and any complications. All procedures were undertaken or directly supervised by two consultant breast surgeons.

Results: A total of 33 reconstructions were undertaken in 29 patients. Median patient age was 52 (range 37-78). Average operating time was 2 hours. Either a 16x8cm or 16x10cm strattice was used depending on the cup size. 8X16 for A/B cup and 10X16 for bigger cup. 3 were prophylactic procedures. 16 were immediate reconstructions. One patient developed wound dehiscence with degeneration of the strattice and exposure of implant. This patient subsequently underwent a further strattice based reconstruction and has had no further complications. 8 patients had red breasts treated with a course of antibiotics.

Conclusions: In our experience, Strattice™ (LifeCell Corp., Branchburg, NJ) based reconstruction of the breast is a safe and effective option in either the immediate or delayed setting. Caution is needed in smokers and any patient undergoing adjuvant radiotherapy.

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P089. Abandoning implants in ELD breast reconstruction in favour of fat grafting: A superior technique

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Introduction: Breast reconstruction using extended latissimus dorsi flap (ELD) is reliable but historically has frequently been combined with implant to boost volume in larger breasted women. This exposes women to the complications associated with both flap surgery and implants and commonly commits them to maintenance surgery in the future. It would seem preferable to try and achieve reconstruction using autologous tissue only in these women. It is now our practice, where possible, to use fat grafting (FG) following ELD where required to boost volume or modify shape and contour and these patients are presented.

Methods: The Units prospectively maintained database was searched to retrieve the details of patients who had undergone ELD based breast reconstruction followed by FG as a primary technique to provide additional volume or improve contour, or following removal of implants, under the care of Mr Fatah.

Results: 23 patients with ELD based breast reconstruction had FG as a primary adjunct, and 8 following removal of implant. The number of FG procedures required varied from 1 to 4 per patient and no major complications were seen.

Conclusions: In our patient group, ELD and FG provided sufficient volume, and in the longer term is maintenance free and therefore superior to implants. We will present data including technique, volumes transferred, and photography to demonstrate outcomes.

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P090. The evaluation of vacuum assisted breast biopsy for the diagnosis and treatment of non benign breast pathology, a retrospective cohort study

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Introduction: The aim of this study was to evaluate vacuum assisted biopsy (VAB) as an adjunct tool in the assessment and treatment of non-benign breast conditions.

Methods: Records of patients undergoing VAB over a 28 month period to July 2012 were retrieved. The pathology identified by VAB compared with subsequent surgical excision using upgrade rate of pathological diagnosis on excision as the primary outcome.

Results: 218 patients underwent VAB. Histology was Atypical Ductal Hyperplasia (ADH) in 4.6%, DCIS in 26.6%, Invasive Ductal Papilloma (IDP) in 4.6%, IDC&ILC in 6%, LCIS in 4.1%, and radial scar (RS) in 6.9%. 103 (47.2%) were in the benign pathological spectrum of breast conditions.

102 (46.8%) patients underwent subsequent surgical excision including 5 where the imaging diagnosis was considered incompatible with the VAB findings on review at the MDT meeting. The pathological diagnosis from the VAB was upgraded in 26/102 patients (25.5%): 4 from ADH to DCIS, 2 benign to DCIS, 18 from DCIS to invasive carcinoma, 1 LCIS to DCIS, 1 radial scar to invasive carcinoma. No down grading was found. The rate of pathological upgrade of diagnosis on excision was 44.4% for ADH, 28.1% for DCIS, 10% for LCIS, 7.7% for RS. 2 of the 5 VAB benign excisions were upgraded on excision.

Conclusion: VAB is a useful tool for the enhanced diagnosis and possible treatment of benign breast conditions. However, the high rate of pathological upgrade in pre-malignant pathologies currently precludes using VAB alone as an alternative to formal surgical excision.

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P091. Risk-reducing mastectomy for BRCA1, BRCA2 carriers and high-risk women in a university hospital

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Introduction: Risk-reducing breast surgery is well established in tertiary centres in the UK and breast reconstruction is as essential for the well-being of high-risk women as the risk-reduction surgery is to their life span.

Methods: A total of 35 women had 64 risk-reducing mastectomies in a University Hospital between 2003 and 2012. The type of surgery and the complications are analysed.

Results: 34/35 women had reconstruction, 13/35 previous (CA) and 22/35 no previous breast cancer (PRO), 16 were BRCA1 and 7 BRCA2 carriers. In a median follow up of 35 months (2-102) none of the PRO developed breast cancer.

Total 64 mastectomies 60/64 implant-based, 2/64 flap-based and 2/64 without reconstruction, 26/60 with nipple preservation, 51/60 1-stage (29/60 1-stage implant, 22/60 1-stage expandable implant) and 9/60 2-stage implant, 18/60 with biomesh (Strattice or Surgimend), 4/60 implants were removed due to infection and 1/60 due to rupture.

All cause revision surgery was performed in 18/35 patients, 8, 5, 4 and 1/18 had 1, 2, 3 and 4 revision operations respectively. The use of biomesh was related to reduced revision rate 16% (3/18 mastectomies biomesh) vs 36% (15/42 no biomesh) but not to the infection/necrosis rate (16% in both groups, 3/18 vs 7/42). 208

Conclusions: None of the 64 prophylactic mastectomies developed breast cancer in a median follow up of 35 months. The revision rates of prophylactic surgery are high and the increasing use of biomesh reduces the revision rate.

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P092. Oncoplastic 'starfish' male mastectomy – an aesthetically better outcome than a standard elliptical scar

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Introduction: Usually male mastectomy is performed via an elliptical incision which results in a long transverse scar with poor overall aesthetic appearance. In our unit, the oncoplastic 'Starfish' technique is used, providing good access for the excision of the male breast yet retaining the male breast contour and leaving only a discrete scar that mimics the contra-lateral nipple/areola complex. We present our experience of oncoplastic 'Starfish' male mastectomy (OSMMx).

Methods: The operative notes, histopathology, adjuvant therapy, follow-up, and pre- and post-operative photographs of two patients who underwent OSMMx in the last two years were reviewed.

Results: 65 year old TP underwent OSMMx and axillary sentinel lymph node biopsy followed by completion axillary lymph node clearance. Final histology demonstrated a mastectomy weight of 245g, a 33mm invasive ductal carcinoma and axillary nodal metastases in 7/17 nodes. Mr TP received adjuvant chemotherapy, radiotherapy and hormone therapy.

57 year old NT underwent OSMMx and axillary sentinel lymph node biopsy only. Histology demonstrated a mastectomy weight of 50g, 14mm of invasive ductal carcinoma and no axillary nodal metastases. Mr NT received adjuvant hormone therapy only.

Postoperative recovery and wound healing were uneventful at the mastectomy sites. Review of photographs shows good aesthetic outcome. Both men are currently content with their chest appearance and despite being offered nipple/areolar reconstruction and tattooing, both have politely declined to date.

Conclusion: Oncoplastic 'Starfish' male mastectomy is a relatively simple and easy to implement technique which provides good aesthetic outcome which is appreciated by our patients.

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P093. The changing face of patients' breast shape reconstructive preferences when free tissue transfer is offered as a routine choice

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Introduction: Free tissue transfer is recognised as the gold standard in breast shape reconstruction. However, provision of this service is often compromised by systemic factors such as availability of dual plastic and breast oncological teams, theatre time and cancer waiting time targets. Our team has developed an efficient system, which has seen an increase in the proportion of one breast surgeon's patients undergoing immediate free tissue transfer breast shape reconstruction from 15.3% in 2010 to 42.5% in 2012.

Methods: Our prospectively collated operative database was interrogated to determine the proportions of patients undergoing mastectomy who also underwent immediate breast shape reconstruction (IBSR) and the type of that IBSR.

Results: In 2010, 13/36 ladies underwent IBSR: 2 Deep Inferior Epigastric Perforator breast shape reconstructions (DIEPBSR); 3 latissimus dorsi and implant breast shape reconstructions (LD+IBSR); 8 tissue expander only breast shape reconstructions (TEOBSR).

In 2011, 27/58 ladies underwent IBSR: 8 DIEPBSR; 6 LD+IBSR; 13 TEOBSR.

In 2012, 40/68 ladies underwent IBSR: 16 DIEPBSR and 1 Superior Gluteal Artery Perforator immediate breast shape reconstruction; 5 LD+IBSR; 18 TEOBSR.

Conclusions: Our system of prompt nurse-led reconstruction counselling, careful planning and good collaboration with the plastic surgical team has permitted the delivery of nearly 50% immediate free tissue transfer breast shape reconstructions to our patients in 2012.

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P094. PIP implants: where are we now?

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Introduction: To date, 7,867 private PIP patients have been referred to NHS. Given over 40,000 women in the UK have PIP implants and recent findings suggest a rupture rate twice that of other implants, the burden to the NHS is likely to continue or increase. We assessed the impact on our service to inform future resource allocation.

Methods: Retrospective analysis of all implants referrals, January to November 2012.

Results: 110 women were seen, mean age 38yrs (21-79); mean implant time 8yrs (1-20). The majority were symptomatic referrals (74%). Most (72%) had PIP implants. Harley Medical had inserted 38%, The Hospital Group 16.5%. The NHS was the initial provider in 10%, of which 1 was PIP. Over 90% of patients were imaged; 76 single modality (MRI- 61, USS 13, and Mammogram 3), 18 dual imaging (MRI/USS − 10, USS/Mammogram − 8), 5 triple modality (USS/MRI/Mammo). Radiological implant failure equalled 25%, 20% were bilateral. Axillary silicone was detected in 10%. Extracapsular rupture was seen in 27%; intracapsular 50% and gel bleed 23%. We removed 20 implants; 9 for radiological implant failure, 9 intact due to patient wishes, and 2 as part of cancer treatment.

Conclusion: Our experience supports findings that PIP implants rupture more frequently and earlier than other implants. The 10% with axillary silicone is concerning as guidance is limited and anxiety high in this group, increasing likelihood of continued presentation. To accommodate these patients in the future we estimate 3 additional new patient clinic slots and 2-3 MRI slots a week will be needed.

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P095. The PIP implant scare: estimating the cost to one regional breast unit

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Introduction: In January 2012, the Department of Health (DOH) issued guidance to the NHS on the management of women with PIP implants indicating that should private providers be unable or unwilling to offer assessment and or explantation this should be offered on the NHS. For NHS origin implants re-implantation could also be offered. This has resulted in 7,174 outpatient appointments (6,591 from private origin), 5,347 scans and 689 explants to date. We count the cost to our district general breast unit.

Methods: Retrospective analysis of costs for patients seen in breast clinic with implants problems from January to November 2012. NHS reference costs 2010-2011 from the DOH were used to estimate costs.

Results: N=110, outpatient appointment costs calculated using the NHS average reference cost for consultant lead first attendance = £17,710. Radiological assessment included 76 MRI scans, 36 USS scans and 16 mammograms at a cost of; £26,144, £1,872, £926 respectively. Most patients had single modality imaging (76), 18 had dual and 5 had triple. Imaging suggested a 25% implant failure rate. We carried out 20 explants. Based on the NHS reference cost for day case Bilateral Minor Breast Procedures this cost amounted to £14,580. The total estimated cost to our district general breast unit was £61,232.

Conclusion: These are considerable costs for the NHS to absorb particularly given the DOH 4 year plan for £20 billion in efficiency savings. More needs to be done to help trusts deals with these costs and to ensure private providers meet their responsibilities.

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P096. Three year audit of haematomas requiring intervention after breast surgery in an Irish University teaching hospital

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Introduction: Haematoma is an uncommon but significant complication of breast surgery. Approximately 1-5% of breast operations require further intervention due to haematoma, which may necessitate transfusion and has implications for length of stay and cost.

Methods: Data was collected prospectively on any haematomas requiring intervention in our institution between January 2010 and December 2012. Of 2,062 breast operations performed during the period, 20 haematomas requiring intervention were identified. We analyse the original surgery, what intervention was required, in the context of the Clavien-Dindo classification, and the timing of any intervention. We also review the haemoglobin drop, need for transfusion, use of anticoagulation, clinical outcomes and the length of stay.

Results: Of the 20 haematomas, 16 required further intervention under general anaesthetic, 9 of them within 24 hours. The haematoma rate was higher in cases requiring more extensive surgery. The average drop in haemoglobin was 3.5 g/dl. 6 patients were on anticoagulants other than routine thromboprophylaxis, with a larger drop in haemoglobin in these cases. 7 patients required a transfusion. A positive correlation was seen between length of stay and drop in haemoglobin with a Pearson coefficient of 0.365. Oncological outcome was not significantly affected.

Conclusion: Major bleeding after breast surgery occurs infrequently in our unit, however it is a potentially significant complication and awareness needs to be maintained to prevent necessity for transfusion and increased length of stay. It is difficult to predict cases where haematoma may develop but particular caution should be taken in high risk cases.

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P097. The positive sentinel lymph node − numbers and management of micro- and macrometastases at The Royal Alexandra Hospital in 2010 & 2011

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Introduction: Recent publications have generated debate regarding axillary management in cases of sentinel lymph node (SLN) positive breast cancers. Consequently, in Scotland we are trying to develop a consensus statement to standardise practice based around the following clinical scenarios − low risk micrometastases, high risk micrometastases, low volume macrometastases and high volume macrometastases.

The audit aimed to determine, in a centre managing approximately 350 breast cancers a year, the number of patients who fall into each category.

Methods: A departmental database and pathology reports were used to identify and record pathological characteristics and final axillary treatment for all positive SLNs in 2010-2011.

Category definitions were: low risk micrometastases- ER positive, T1/2, grade1/2; high risk micrometastases- ER negative, LVI +, grade 3; low volume macrometastases- 1-2 positive SLNs; high volume macrometastases- $\geq$3 positive SLNs.

Results: 664 symptomatic and screen-detected breast cancers were managed in 2010 − 2011. Of those who had surgery as first treatment, 98.1% (475) had surgical staging of the axilla with 444 (93.5%) having SLNB. 55 (12.4%) were positive SLNs. The table displays the number of cases in each category and their final axillary treatment.

Type of positive SLN		Radiotherapy alone	Radiotherapy and ANC	None
Micrometastases	Low risk	3		
	High risk	3		
Macrometastases	Low volume	35	4	1
	High volume	4	2	
Micro- and macrometastases		3		

Conclusions: Although the numbers in each category are small, we hope this audit will aid development of a consensus statement on the management of a positive SLN.

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P098. Do molecular assays for assessing the sentinel node (SN) result in upstaging breast cancer?

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Introduction: Polymerase Chain Reaction (PCR) based assays are becoming a popular option for assessing the sentinel node intra-operatively for women with breast cancer. One of the concerns with these molecular assays is that they are more sensitive than conventional H&E assessments and hence result in upstaging of disease, specifically with reference to micrometastatic disease.

Aim: The aim of this study was to compare the axillary metastasis rate in patients using One Step Nucleic Acid Amplification Assay (OSNA) to imprint cytology and H&E in assessing the sentinel node.

Method: OSNA was introduced in our unit in July 2011. A prospective database was used to enter data of OSNA analysis. The results of OSNA were compared with patients who had the sentinel node assessed by imprint cytology(IC) and H&E prior to the introduction of OSNA.

Results: OSNA detected more node positive patients than IC and H&E (OSNA 72 of 216, 33% vs. IC and H&E 103 of 455, 23% P=0.0036) and looking at micrometastatic disease a similar trend was found (OSNA 13 of 216, 6% vs. IC and H&E 11 of 455, 2.4% P=0.0253).

Conclusion: Our study confirms published data that molecular assays have a higher rate of node positivity compared to conventional H&E. However the clinical significance of this increase, particularly with reference to micrometastatic disease is unclear. In light of recent trials like Z0011, one could argue that women with metastatic disease on OSNA, specifically micrometastatic disease are being over treated if they have a clearance or axillary radiotherapy.

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P099. Re-operation rate after breast conserving surgery at Stafford hospital − How do we compare to national averages?

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Aim: To determine the re-operation rate in our unit compared with the national average

Background: 45,000 women diagnosed with breast cancer in the UK each year. In 2008 58% had breast conserving surgery nationally in UK. A recent study, published in July 2012, in the BMJ concluded that nationally 1 in 5 women who have breast conserving surgery in the UK need a re-operation (either re-excision of margins or progression to full mastectomy).

Method: A retrospective audit was carried out between June 2009 to June 2012. Data was collected from the computer database and hospital records.

Results: A total of 381 patients underwent breast conserving surgery. 324 patients had only one surgery and no re-operation (85%). 53 patients had one re-operation, 41 had a re-excision of margin (10.8%) and 12 progressed to mastectomy (3.1%). Only 4 patients needed more than one surgery (1%).

Re-operations	Stafford Hospital	Study
Women who had breast conserving surgery (WLE)	381	55,297
Women who had no re-operation within 3 months	324	44,265
Women who had one re-operation:	53(13.9%)	10212 (18.5%)
■ Re-excision	41(10.8%)	5943 (10.7%)
■ Mastectomy	12(3.1%)	4269 (7.7%)
Women who had 2+ re-operations	4 (1%)	820 (1.5%)

Conclusion: Re-operation rates in different NHS Trusts vary between 12.4% to 29.5% (10^{th} and 90^{th} centiles) with a national average re-operation rate of 20%. We found that our re-operation rates after breast conserving surgery were below the national average and within the range of other NHS Trusts.

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P100. Radial scars of the breast − clinical relevance and association with malignancy

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Introduction: Radial scar/ complex sclerosing lesions (RS/CSL) are not 'scars' in the true sense and the likely cause is either localised inflammatory reaction or ischaemia of the breast tissue. These lesions are difficult to report due to similar appearance as malignancy and its association with atypical ductal hyperplasia and malignancy. Hence the recommended treatment is excision biopsy. The aim of this study was to study the incidence of malignancy in radial scar and its clinical relevance.

Material and methods: We reviewed cases of RS/CSL treated in our hospital over a period of five years (2004-2009) in this retrospective audit. All patients diagnosed with radial scar that had core biopsy followed by excision biopsy in were included in this audit. Clinical, radiological and pathology details such as palpable abnormalities, mammographic and ultrasound appearance, micro calcification, size of the lesion on radiology and final pathology, and type of associated cancer. Correlation was made with Ultrasound, Mammography, core biopsy findings and final histology.

Results: 73 case notes were made available for the audit (59 screen detected, 14 symptomatic The mammographic abnormalities reported were typically distortion of architecture (DOA: 57/73) or opacity (10/73). Six patients had associated microcalcification with DOA. Average size of the lesion on radiology was 14.6 mm. All patients had Ultrasound/ stereo wire guided excision biopsy. Final histology confirmed that 17/73 (23.2%) had associated ductal carcinoma in situ (DCIS) and/or invasive cancer (DCIS in 10/73 cases, tubular carcinoma 4/73 cases, 1/73 invasive carcinoma grade 1, and two cases of DCIS with invasive and tubular carcinoma). There was no significant association between clinical abnormality, size of the scar or mammographic appearance and DCIS/Invasive cancer. In this series, 23.2% of cases with radial scar had associated DCIS or invasive cancer.

Conclusion: The associated invasive cancer with radial scar is low grade. Those with a finding of radial scar should be advised to undergo excision due to the risk of associated disease.

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P101. The importance of the documentation of blue dye usage and side effects in sentinel lymph node biopsy procedure

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Introduction: The usage of blue dye injection associated with few side effects ranging from mild rash to severe anaphylactic shock. The Association of Breast Surgery (ABS) recommends that Patients must be informed of the use of blue dye and its allergic potential as part of the consent process.

Methods: A retrospective study had been conducted in our hospital. Patients' data was collected over 4 months' period from May to August 2012.

Results: In total, 41 Patients had a SLNB. Only 19 patients (46.35%) had the risk of allergic reaction mentioned as a possible side effect. Less severe side effects (i.e. rash, blue discoloration were mentioned in 26 consent forms (78.3%). 12 (29.26%) patients had no form of any documentation regarding the usage and the risks. One case of mild allergic reaction was recorded which been treated successfully with antihistamine medications. A re-audit shows marked improvement in practice when results discussed in safe care and quality improvement meeting.

Conclusion: According to ABS, NEW START and ALMANAC, 1% allergy rate secondary to blue dye usage has been recorded. Therefore all possible measures should be adopted to ensure patients safety. Careful explanation of the procedure and documentation of the use and side effects of blue dye is highly recommended. It can be achieved by raising the awareness among surgeons and medical staff.

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P102. Cost minimisation analysis of using acellular dermal matrix (Strattice™) for breast reconstruction compared with standard techniques

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Background: We performed a cost analysis (using UK 2011/12 NHS tariffs as a proxy for cost) comparing immediate breast reconstruction using the new one-stage technique of acellular dermal matrix (Strattice™) with implant *versus* the standard alternative techniques of tissue expander (TE)/implant as a two-stage procedure and latissimus dorsi (LD) flap reconstruction.

Methods: Clinical report data were collected for operative time, length of stay, outpatient procedures, and number of elective and emergency admissions in our first consecutive 24 patients undergoing one-stage Strattice reconstruction. Total cost to the NHS based on tariff, assuming top-up payments to cover Strattice acquisition costs, was assessed and compared to the two historical control groups matched on key variables.

Results: Eleven patients having unilateral Strattice reconstruction were compared to 10 having TE/implant reconstruction and 10 having LD flap and implant reconstruction. Thirteen patients having bilateral Strattice reconstruction were compared to 12 having bilateral TE/implant reconstruction. Total costs were: unilateral Strattice, £3685; unilateral TE, £4985; unilateral LD and implant, £6321; bilateral TE, £5478; and bilateral Strattice, £6771.

Conclusions: The cost analysis shows a financial advantage of using acellular dermal matrix (Strattice) in unilateral breast reconstruction *versus* alternative procedures. The reimbursement system in England (Payment by Results, PbR) is based on disease-related groups (DRG) similar to that of many countries across Europe and tariffs are based on reported hospital costs, making this analysis of relevance in other countries.

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P103. Audit and re-audit of the use of surgical drains and the effect on early discharge following breast surgery

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Introduction: The NHS Improvement Transforming Inpatient Care aims to reduce the length of stay. We audited and re-audited our patients with regards to breast wound drains to identify suitable patients for discharge 6 hours after surgery.

Methods: Initial audit conducted January - March 2012, re-audit August - October 2012. Patients requiring a surgical drain following elective breast surgery were included, excluded were re-excision surgery and emergency cases.

Total drain output was assessed 6 hours post-surgery, if the total volume < 150mls the drain could be removed and patient discharged home provided no contradictions. If drain volume > 150mls, patient re-assessed at 8am the following morning those with a volume less than 100mls in 24 hours were suitable for discharge. Initial audit monitored those suitable for drain removal after 6 hours, re-audit monitored how many underwent early discharge and the reasons for non-discharge.

Results: Initial audit identified 34 patients - 25 (73.5%) had a total drain volume <150mls after 6 hours and suitable for early discharge. Re-audit identified 22 patients - 17 (77.3%) patients had a total drain output < 150mls. Nine had drains removed and discharged same day. Reasons for non-discharge: 2 late completion of operation, 2 multiple co-morbidities, 3 elderly patients not suitable for day discharge, 1 patient's own choice to stay in hospital.

Conclusion: Early discharge of patients can be achieved by identifying those patients at pre-assessment and organising the operation list so those that are eligible for early discharge are done early on the list.

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P104. The application of the Memorial Sloane Kettering (MSK) nomogram to reduce unnecessary axillary clearances in a single UK screening unit.

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Introduction: Evidence suggests that selected patients with positive sentinel biopsies (SNB) can be managed without a completion axillary clearance (ANC). The MSK nomogram estimates probability of further axillary disease. This study aimed to assess the use of the MSK nomogram to identify patients that can be managed without ANC.

Methods: Patients who had undergone a positive SNB followed by an ANC were identified. For each tumour 2 retrospective MSK risk scores were calculated for both metastases identified using intra-operative assessment (IOA) and delayed serial IHC. Results were analysed to determine accuracy and suitable thresholds for treatment.

Results: 41 patients were included in the study. 27 (66%) patients had no further disease on completion ANC. There was significant correlation between both MSK scores and total lymph node burden (paired t-test $p=<0.001$). The ROC curve area for the groups was 0.80 and 0.72 respectively. A treatment threshold of $\leq 60\%$ (using IOA) and $\leq 25\%$ (without IOA) identified the same 5 patients whom had further disease on ANC, with a maximum of 2 positive nodes. Using IOA and a $\leq 60\%$ threshold, 4 patients would have undergone a negative ANC compared with 7 in the second group.

Conclusion: MSK nomogram in this unit produced similar results to those published in the initial validation study irrespective of method of diagnosis used. The treatment thresholds described above would have been spared 23 (85%) patients an unnecessary ANC. The 5 patients who would have been denied further surgery had low volume residual disease of debatable clinical significance.

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P105. Comparative survival analysis of breast cancer with poor biological markers

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Introduction: Triple Negative Breast Cancer (TNBC) is biologically aggressive and carries a relatively poor prognosis. The aim of this study is to compare the survival of TNBC with other related biological subgroups.

Method: The database was reviewed over a 5 year period between July 2006 and June 2011 for three groups of breast cancer patients with different biological characteristics:

Group1: ER negative, PR negative and HER 2 negative (TNBC)

Group 2: ER positive, PR negative and HER 2 negative (ER positive group)

Group 3: ER negative, PR negative, and HER 2 positive (HER 2 positive group)

Their 5-year overall survival (OS) and breast cancer specific survival (BCSS) were compared using the Kaplan Meier method.

Results: There were 114 patients in Group 1, 86 in Group 2 and 49 in Group 3. The age, tumour grade and size were similar. The 5 year OS and BCSS for the three groups were: Group 1: 65% vs. 72%; Group 2: 74% vs. 79%; Group 3: 60% vs. 69%.

Conclusion: Triple Negative Breast Cancer and ER/PR negative/HER 2 positive patients have a relatively poor prognosis and support the oncology trials to optimize and improve their treatment.

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P106. Radiotherapy effects on immediate-delayed implant-based breast reconstructions using breast-Q patent-reported outcome measures

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Introduction: The consensus on the cosmetic effects of radiotherapy on implant-based immediate breast reconstructions (IBR) is still unresolved while studies focusing on the patient feedback are lacking. We used a validated patient-reported outcome measure (PROM) called the Breast-Q questionnaire to look at the patients' perceived cosmetic effects of radiotherapy on their IBR and also other technical factors.

Methods: Patients who underwent tissue expander-based IBR followed by a delayed fixed volume implant exchange from 2008 to 2011 were sent the Breast-Q questionnaire.

Results: Out of the 132 cases, 94 cases responded (71.2%). There were 81 subpectoral implant-only and 13 implant-assisted latissimus-dorsi reconstructions. After adjusting for confounding variables, radiotherapy cases had a lower mean Breast-Q score compare to those who did not (72 vs 22 cases respectively, mean score 72.2 vs 61.6, $p = 0.016$). Other factors such as age, BMI, ASA grade, previous ipsilateral surgery, time from primary surgery, initial breast size, concurrent and delayed axillary surgery, contralateral symmetrising procedure, nipple reconstruction, adjuvant chemotherapy and endocrine therapy did not have any significant effect on Breast-Q mean scores.

Conclusion: Based on PROM, radiotherapy has a detrimental effect on cosmetic results of IBR. This should be taken into account when deciding between immediate versus delayed implant-based reconstructions if patients are concerned with long-term cosmetic results. Other technical factors such as initial breast size, implant size, nipple reconstruction and contralateral procedures do not affect patient cosmetic opinion.

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P107. Audit of outcome following core biopsies grades as B3 − Is surgical excision biopsy justified?

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Introduction: The aim of this study was to audit outcome of all "B3" biopsies obtained over a 6 year period, in terms of final histology.

Methods: Data was collected from a prospectively maintained database of all patients referred for symptomatic or screen detected breast lesions between 2006-2012. All patients with B3 lesions on core biopsy or C3 cytology from nipple discharge were included. Information was collected on patient demographics, biopsy characteristic and final histology following excision biopsy. Congruency between suggested pathological diagnosis on core biopsy and final histology was determined for each histological subgroup.

Results: Total of 91 patients met inclusion criteria, all but one were female. 67 had lesions which were screen detected, 24 were symptomatic. Final histological diagnosis after excision biopsy included: intraductal papilloma (14/91), phyllodes (8/91), sclerosing lesion/radial scar (12/91), ADH(5/91), in situ carcinoma (20/91) and invasive carcinoma (3/91).Congruency between initial biopsy histology and final histology was greatest in those diagnosed with phyllodes (8/8 patients) and lowest in those with biopsy ADH (1/17). Of the 23 patients who had a final diagnosis of in situ or invasive carcinoma, the initial diagnosis suggested by core biopsy was ADH/ALH (13/23), intraductal papilloma (6/23) and atypical/hyperplastic ductal proliferation (4/23).

Conclusion: This study confirms the importance of continuing to carry out surgical excision biopsies for B3 lesions. There should be a high index of suspicion for in situ or invasive cancer in those with a pre-operative core biopsy diagnosis of ADH or intraductal papilloma.

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P108. A prospective study comparing preoperative imaging and explantation findings in patients with silicone breast implants

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Introduction: In 2010, Poly Implant Prothese silicone implants (PIP) were withdrawn from the market due to manufacturing concerns. There are no published prospective studies confirming imaging findings in patients with silicone breast implants. We have performed a direct comparison of imaging results with explantation findings in a cohort of PIP patients.

Methods: All patients implanted from 2000 to 2010 at the Spire Washington Hospital were recalled. Patients were offered MRI imaging (USS if intolerant) and explantation if a rupture was reported. Explantation was also offered to image negative patients if it was deemed clinically appropriate. The operative findings were compared to the preoperative imaging results.

Results:119 consecutive patients were imaged, with a median age of 41.5 and a median implantation time of 6 years. 104 MRI scans (208 breasts) and 15 bilateral USS were performed. MRI diagnosed 36 ruptures (17.3%) and USS 8 ruptures (26.7%) giving a total preoperative rupture rate of 18.5%. At explantation 38/44 ruptures were confirmed. MRI had a PPV of 86.7% and a NPV of 94.7%. 8 of 9 (89%) ruptures in the USS group were confirmed with no false positives.

Conclusions: In this study PIP implants acted as a surrogate in determining the accuracy of MRI for silicone breast implant rupture with a sensitivity of 0.86 and specificity of 0.94. Caution needs to be observed when interpreting MRI results and counselling patients. USS is still a valuable imaging tool but numbers in this study are too small to make a direct comparison with MRI.

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P109. Delayed-immediate breast reconstruction - widening the indications for breast reconstruction

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Introduction: In women who have a mastectomy and wish to have breast reconstruction, the best timing of breast reconstruction depends on whether radiotherapy (XRT) is needed. If there is pre-operative uncertainty about the need for XRT, patients can be offered a delayed-immediate reconstruction (DIBR). This is where after performing skin sparing mastectomy, a tissue expander or implant is placed until definitive pathology is known. If no XRT is needed, immediate reconstruction can follow, if XRT is necessary, it is performed with the implant in-situ with the hope of preserving skin. There are no published series of DIBR on a UK population.

Methods: Retrospective data collection of all women undergoing DIBR between June 2006 and December 2012. Written hospital records and electronic files were handsearched for the necessary datasets. PROM data is currently being collected for these women.

Results: 24 patients had DIBR. Median age 49 (range 27-69). Mean tumour size on pre-operative assessment was 43mm (range 9-120). 3 patients had explantation of their implant/expander due to infection, one of these had DIEP flap performed at the same time. Ten patients required adjuvant chest wall XRT. Definitive reconstruction has been performed in eight patients, with a mixture of DIEP, LD and implant. All patients having reconstruction following XRT have had autologous reconstruction. No patients have had local recurrence.

Conclusions: DIBR is a safe procedure with low risk of implant loss. DIBR gives women the choice of preserving native skin, which is likely to improve long-term cosmesis.

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P110. Mammographic findings and rates of ultrasound and biopsy following wide local excision for breast cancer in patients treated with intraoperative radiotherapy (IORT) versus external beam whole breast radiotherapy (EBRT)

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Introduction: As part of the TARGIT-A trial, breast cancer patients were prospectively randomised to either EBRT or a single dose of IORT, with comparable results in local recurrence and complication rates. Our aim was to compare follow-up mammographic findings and rates of adjunctive ultrasound and biopsy between the two groups.

Methods: Follow-up mammograms from TARGIT trial participants were independently reviewed by two radiologists blinded to the treatment received. Between-group differences were compared using chi-square test.

Results: The cohort consisted of 141 patients (EBRT n=80/IORT n=61). Patient and disease characteristics were similar between the two groups, as were the number of follow-up mammograms and length of follow-up (EBRT/IORT n=2.0/2.4; 4.3yr/5.1yr; p=0.386). There were no significant differences in mammographic scar or calcification appearances of the post-operative site. However, increased breast density and generalised skin thickening were more common in the EBRT compared to the IORT group (p=0.002; p= 0.030 respectively). Ultrasound at follow-up was required slightly more frequently in the IORT group (15 of 61 (24.6%) versus 11 of 80 (13.8%)) but the difference was not statistically significant (p=0.100). No disease recurrence was demonstrated on any of the breast biopsies taken. Only one biopsy was reported as fat necrosis in the IORT group.

Conclusions: Generalised reactions on mammography are more common following EBRT compared with IORT. A slight, non-statistically significant increase in the need for ultrasound at follow-up was seen in the IORT group. However, IORT does not significantly increase mammographic interpretation problems or diagnostic intervention rates at follow-up mammography.

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P111. Reliability of a questionnaire for long-term follow of breast cancer patients

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Aim: Routine face-to-face follow-up of breast cancer patients does not improve survival outcomes and is poor at detecting psychological morbidity. Furthermore follow-up strategies and data collection on outcomes lack structure across the healthcare community. This study tests the reliability of a short questionnaire intended for detection of physical and psychological morbidity, triage of patient symptoms and recording clinical outcomes.

Methods: The 10-question Likert-scale questionnaire covered breast symptoms and local recurrence, arm/shoulder morbidity, adjuvant treatment and side-effects, psychological morbidity and secondary breast cancer.

13 low/moderate risk (Nottingham Prognostic Index) breast cancer patients in routine follow-up two or more years post-operation were purposively selected to complete the questionnaire and subsequent semi-structured interview. Analysis of transcriptions was undertaken and validated by an independent rater.

Results: All patients were able to complete the questionnaire and were confident in their response to most questions. Their understanding of the syntax was correct and no patients found any questions unacceptable. The questionnaire was reliable for local recurrence, shoulder/arm morbidity, adjuvant treatment and side-effects, and psychological morbidity.

The questionnaire was unreliable for detecting secondary cancer because of poor patient understanding of cancer symptoms and confounded by other diagnoses such as respiratory disease and arthritis.

Patients were uncertain of the time-scale for reporting symptoms and over-reported some which had resolved.

Conclusion: The short questionnaire is acceptable to patients and reliable in detecting new morbidity. However inadequate patient understanding of secondary cancer symptoms compromise reliability in some patients with other chronic symptomatic disease. This might be resolved through better patient education.

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P112. A comparison of the Memorial Sloan Kettering (MSK) nomogram and OSNA copy number to predict the risk of positive non-sentinel lymph nodes (SLN) in SLN positive patients

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Introduction: Identification of sentinel lymph node (SLN) positive patients at risk of further non-SLN metastases would allow a more targeted approach to axillary lymph node clearance (ALNC) and potentially spare low risk patients unnecessary further surgery. OSNA, an intra-operative node assessment technology, provides a quantitative measure of the metastatic burden in the axilla. This study aimed to compare the efficacy of the OSNA copy number at predicting non-SLN metastasis to the MSK nomogram.

Methods: Prospective data was collected from all patients who underwent OSNA testing from June 2010 to December 2012. A subset of 48 patients (110 nodes) who had SLNs with macrometastases on OSNA was included. The MSK nomogram score, the maximum OSNA copy number and the nodal status following ALNC were recorded for each patient.

Results: 31% (15/48) of patients with macrometastases on SLNB had at least one positive lymph node at ALNC and 69% (33/40) had no further metastases. The differences in the MSK nomogram score and the log OSNA copy number were significant between these two groups although the ROC was better with the OSNA copy number.

Non SLN Status at ALNC	MSK Nomogram Score	Log (OSNA Copy Number)
At least one positive (n=15)	171(SEM = 10.98)	5.2(SEM=0.21)
Negative (n=33)	139(SEM = 5.29) p=0.005, ROC=0.73	4.5(SEM =0.1) p=0.001, ROC=0.78

Conclusions: These results support the use of OSNA copy numbers to predict the risk of further positive non-SLN. In the future this may help predict those patients who could be spared an axillary clearance even if they had positive nodes at SLNB.

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P113. Assessment of neoadjuvant chemotherapy responses for locally advanced breast cancer patients: DCE-MRI vs resection histology

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Background: Neoadjuvant chemotherapy is used to downstage locally advance breast cancer and allows increased rates of breast conserving surgery. Studies have shown Dynamic contrast enhanced- MRI (DCE-MRI) to provide a more accurate prediction of residual disease. However, therapy induced changes and presence of discontinuous foci from tumour fragmentation following chemotherapy can make prediction of response on DCE-MRI challenging.

Aim: We aimed to compare therapy responses assessed on DCE-MRI with final resection histology following administration of anthracyline (FEC) neoadjuvant chemotherapy for locally advanced breast cancer patients.

Methods: Imaging and radiological data was available for 24 patients who received FEC chemotherapy. All patients undergoing chemotherapy were staged with the DCE-MRI of the breast before and after treatment. Therapy responses were determined based on RECIST criteria. Patients who had complete or partial response were considered responders and patients with stable and progressive disease were considered non responders.

Results:

Assessing Modality	Responders	Non-responders
Pre-treatment MRI to post treatment MRI	15	8
Pre-treatment MRI to final resection histology	12	11

A 75% concordance was seen in responses determined by DCE-MRI and the final resection histology. 25% patients showed differences in therapy responses determined by DCE-MRI compared to final resection size.

Conclusion: Neo-adjuvant therapy responses determined on DCE-MRI provides an acceptable level of concordance with final histology for anthracyline based chemotherapy. However, in 25% of patients DCE-MRI may not accurately predict response to anthracyline based neoadjuvant based chemotherapy for locally advanced breast cancer.

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P114. Bilateral simultaneous mastectomies

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Introduction: Bilateral same-time mastectomy has traditionally been thought of as the treatment for bilateral simultaneous breast cancer unsuitable for breast conserving surgery. However, we have noticed an increasing trend of women who are choosing to have simultaneous bilateral mastectomies for small, unilateral tumour or for risk-reducing purposes. We conducted an audit on this selected cohort of our patient population.

Methods: A retrospective review of all patients undergoing simultaneous bilateral mastectomies between June 2002 and June 2012 was carried out. Cancer registry, case-notes, radiological and histopathological reports were used for data collection.

Results: 53 out of 69 patients (mean age 51) with completed data were included. 8 patients underwent subcutaneous mastectomies for gynaecomastia and were excluded from subsequent analyses. 15 patients were operated on between 2002-2007 whereas there were 30 patients between 2007-2012. 47% underwent simultaneous mastectomies for bilateral simultaneous breast cancer. 28% of cases involved a mastectomy for 'risk-reducing' purposes and one case was bilateral risk reducing surgery. 59% of histology tumour size was less than 40mm and 33% of patients underwent reconstructive surgery. Mean hospital stay was 5.9 days (1-22), and 33% of patients underwent further revisional surgeries. Only 7% of our patients have a documented genetic mutation.

Conclusions: We have noticed an increase in requests for simultaneous bilateral mastectomies even when it is not clinically indicated. This trend has obvious resource implications and further studies are needed to assess the long-term effects of these operations on physical as well as psychosocial well-being of this patient cohort.

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P115. Revision of symmetrisation surgery; a novel workup using CT angiography to identify the primary reduction mastopexy pedicle

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Introduction: Oncoplastic techniques are increasingly incorporated in the treatment of breast cancer, and with them their long-term follow-up implications. We present a case of revision mastopexy in a patient who previously underwent symmetrisation mastopexy following primary breast cancer treatment. The old case notes were not available and although clinical examination elucidated a wise pattern scar, the primary pedicle utilised for the procedure was uncertain. While neovascularisation occurs in the postoperative period, the primary pedicle should be respected during subsequent surgery.

Prior to free flap surgery, abdominal vasculature is regularly investigated using computerised tomography angiography (CTA) and, as such, we attempted to extend this investigation to the nipple areola complex (NAC).

Methods: Dual energy Computerised Tomography scan of the thorax was undertaken using arterial phase protocol. Multi dimensional planar images were reviewed with our experienced interventional radiologist, and 3D image rendering was appreciated.

Results: The main blood supply to the NAC was clearly demonstrated to arise from a medal perforator of the internal mammary artery (*pictures or video as appropriate*), and progressed with an inferolateral course. This correlated with the distribution of a superiomedial based vascular pedicle.

Further surgery was undertaken uneventfully based around the superomedial pedicle.

Conclusion: With the increasing use of therapeutic mammoplasty and symmetrisation surgery, we anticipate similar situations in the future. CTA would be a useful non-invasive adjunct to demonstrate vascular pedicles and should be considered *pro re nata*.

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P116. Intraoperative radiotherapy for breast cancer: Is it suitable for Tanzania?

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Aim: Intra-operative radiotherapy (IORT) is a technique that can be used during breast conserving surgery with low local recurrence rates and without the side effects of external beam radiotherapy (EBRT). In some developing countries, EBRT (including the cost of relocating to a major centre) is unaffordable leaving mastectomy as the sole surgical treatment option. We evaluated the feasibility of introducing IORT for operable breast cancer, into a developing country.

Method: Data from published reports was collected on the incidence of breast cancer in Tanzania. A literature review was conducted on the treatment and resource options available. An on-site visit to a breast cancer unit in Tanzania was undertaken to determine the typical pathway for treating newly diagnosed breast cancer. The cost of mastectomy, breast conserving surgery with EBRT or with IORT were estimated and compared.

Results: Electricity was a limiting factor for many centres and electricity sharing is the norm within Tanzania. Lack of electricity is an important limiting factor for the availability of radiotherapy. The cost of patients undergoing surgery with IORT amounts to significantly less than surgery followed by EBRT, most significantly the setup costs.

Conclusion: IORT would be viable and beneficial financially and clinically in Tanzania for breast conserving surgery. It would however be necessary to implement basic infrastructure such as sustainable electricity before this is introduced.

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P117. Length of stay following breast surgery in a rural community – predicted versus actual stay

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Introduction: In the current financial climate, length of stay is increasingly important. Early discharge may be more problematic in a rural than an urban environment. The aim of this study was to compare observed with predicted length of stay (LOS) and examine any differences.

Methods: Data were collected prospectively on patients undergoing a range of breast procedures within a single department. Length of stay was predicted preoperatively by the surgeon. The actual LOS and reasons for any delayed discharge were recorded. For patients undergoing more than one procedure, the one most likely to influence LOS was used.

Results: 100 patients with a median age of 58 were studied.

Table 1 shows an example of the median predicted and actual LOS for a range of procedures

Procedure	N	Predicted LOS	Range	Actual LOS	Range
WLE	21	1	0 to 2	1	0 to 2
Simple Mastectomy	20	2	1 to 3	3.5	2 to 6
Therapeutic Mammoplasty	14	1	0 to 2	1	0 to 4
Axillary Clearance	8	1.5	1 to 3	3	1 to 6
Implant Reconstruction	12	1	1 to 4	2.5	1 to 9

41% of patients did not go home on the predicted day of discharge. 9 (21%) of these did not want to go home with their drains in. Other reasons included distance to travel home, especially for patients operated on later in the day.

Conclusion: Length of stay is notably shorter than a decade ago. In a rural setting however almost half of patients return home later than expected. Cornwall has a large catchment area with many patients travelling significant distances home and are relatively isolated from community services. This was a pilot study but despite small numbers it suggests strategies for preoperative counselling regarding drains and organisation of lists to aid the construction of effective patient pathways.

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P118. A 10 year experience of breast reconstruction by a single surgeon in a district general hospital

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Introduction: Breast reconstruction has become a fundamental aspect of the management of breast cancer. Many options are available, both implant- and flap-based, tailored according to patient comorbidity and preference. Pedicled latissimus dorsi (pLDs) and transverse rectus abdominis myocutaneous (pTRAMs) flaps are most commonly performed procedure for both immediate and delayed reconstruction.

Method: A retrospective database recorded a single surgeon's experience of 75 patients (86 breasts) undergoing breast reconstruction from 2002 to 2012. Patients were individually interviewed and given a Royal College of Surgeons breast reconstruction satisfaction questionnaire and all case notes reviewed for post-operative complications.

Results: Average age was 50 (range 17-70). Reconstructions were immediate (n=51) or delayed (n=35). Of the 85 reconstructions, 68 were pLDs, 9 pTRAMs and 1 dermoglandular flap. Average inpatient stay was 5 days for pLD patients and 5.5 days for pTRAM patients. Drains were removed prior to discharge. Only 1 patient required re-operation for a complication. Identified complications were 9 seromas, 7 wound infections, and 2 partial flap necroses, 1 of which needed removal of implant. All others were managed conservatively. 12 patients had contralateral augmentation and 18 had nipple reconstructions. Patient surveys demonstrated a high level of satisfaction with the end result.

Conclusion: Our experience demonstrates that pLD and pTRAMs are performed with minimal complications and a high patient satisfaction in this District General Hospital.

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P119. Sentinel lymph node biopsy for patients with ductal carcinoma in situ – Is it really necessary?

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Introduction: Ductal carcinoma in situ (DCIS) is a non-invasive disease. However, patients with DCIS who undergo a mastectomy have simultaneous sentinel lymph node biopsy (SLNB) due to the risk of uncovering occult invasive disease. We performed a small study to determine the number of positive sentinel nodes in this group of patients.

Methods: This is a retrospective study of patients who underwent mastectomy and SLNB from April 2011 to July 2012 at the Queen Elizabeth Hospital in Gateshead. An online pathology system (ICE) was used to extract the data after using medical coding to identify relevant patients.

Results: Eighty five patients were identified. Of these, 26 patients (31%) had DCIS, and 59 patients (71%) had invasive disease. Pre-operative biopsies correlated with post-operative pathology. Twenty patients (77%) with DCIS had high grade disease, and the mean area size was 42mm. All lymph nodes from patients with DCIS were free from metastasis.

Conclusions: The results add weight to research that has showed patients with DCIS are very unlikely to have positive lymph nodes. This is an important finding, particularly as the majority of patients were at high risk of occult invasive disease (extensive DCIS, high grade). However, it is a small study, so not readily generalisable. The study will be expanded to improve understanding of lymph node behaviour with DCIS and improve applicability to clinical practice.

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P120. Mammographic imaging of women under 40 presenting to symptomatic clinics: is it worth it?

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Introduction: Association of Breast Surgery guidelines recommend mammographic imaging of women over 40, and of women age 35 with clinically suspicious lesions in combination with ultrasound. Practice within the Edinburgh Breast Unit had been to perform mammography on all symptomatic women over 35 years age. We aimed to assess the diagnostic usefulness of mammography in women age 35-39 presenting to symptomatic breast clinic.

Methods: Data from all women age 35-39 who had mammography performed for symptomatic presentation from Jan 2010 to Dec 2011 at either Edinburgh Breast Unit or St Johns Hospital, Livingstone were collected and correlated to all patients diagnosed with breast cancer from the local cancer audit database.

Results: In 1099 patients, 1114 mammograms were performed. Twenty five cancers were diagnosed in 24 patients (one bilateral; 23 invasive and 2 DCIS; overall invasive disease detection rate 2.1%). In twenty-two cancer cases both mammogram and ultrasound were abnormal; in one patient presenting with breast lumpiness mammogram was abnormal but ultrasound normal; in two patients with lump mammograms were normal but ultrasound was abnormal. One patient with bilateral disease had normal clinical findings unilaterally but suspicious mammogram and ultrasound. No patient with a normal clinical and ultrasound examination had a cancer detected on mammogram.

Conclusions: From our two year series, omitting mammograms in women presenting with symptomatic breast disease may have resulted in one missed cancer from 1114 mammograms performed (0.09%) provided action was taken if ultrasound or clinical findings were abnormal.

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P121. Predicting additional positive non-sentinel lymph nodes after macrometastasis at sentinel lymph node biopsy – it's a numbers game

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Introduction: Positive Sentinel Lymph Node Biopsy (SLNB) is generally followed by Axillary Lymph Node Dissection (ALND) which is often negative. Breast surgeons are now moving towards a more conservative approach to the axilla, and as such, nomograms have been created in order to stratify patients' risk of additional positive non-sentinel lymph nodes after SLNB. Here we used the validated MD Anderson Cancer Center Nomogram to retrospectively predict additional positive non-sentinel lymph nodes in patients who underwent positive SLNB with macrometastasis.

Method: Data was collected retrospectively regarding 225 consecutive patients who underwent SLNB across two hospitals within an NHS Trust over a two year period (2010 and 2011). Age, sex, tumour size and type, and nodal status at SLNB and subsequent ALND were recorded.

Results: 33/36 patients with positive SLNB underwent ALND, of which only 7 (21.2%) were positive. 1/8 (12.5%)patients had further positive nodes at ALND where predicted positive additional nodes was low (0-29%). 2/19 (10.5%) patients with moderate risk of additional positive nodes (30-59%) had additional positive nodes. 4/6 (66.7%) patients with high risk of additional positive nodes (60-89%) had further positive nodes at ALND.

Conclusion: The MD Anderson Cancer Center Nomogram may be used as and adjunct in calculating the benefit of ALND in certain patient groups; it appears accurate for very high and low risk patients, but over-estimated patients with moderate risk of further axillary disease. Where axillary conservation is considered, patients must have all available information to allow an informed decision; nomograms may improve patient knowledge of risk of further axillary disease.

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P122. Prospective study to determine the biopsychosocial factors contributing to mastalgia in a clinic-based sample

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Mastalgia is a common presentation in breast new patient clinic in the UK and poses significant pressure on the utilisation of breast services.

We assessed the aetiology of breast pain in a clinic based sample using a questionnaire distributed to patients presenting with breast pain over a 3 month period and assessed the associated pattern of healthcare utilisation.

Over the 3 months period, 526 patients attended breast clinic, of those 115 presented with breast pain (22%). 32 (28%) of these patient were under age 35. Imaging studies was performed in 96% of patients and they were found to be normal or benign in 99% of cases. None of the patients under 35 had abnormal scans. Lifestyle questionnaire reviewed a weak association with lifestyle factors such as smoking (20%), moderate to high caffeine intake (15%), alcohol (5%). 45% patients suffers from other pain issues.

Breast pain is a common condition affecting patient's activity. It is associated with high use of imaging in young women. Should we continue to perform investigations in patients with breast pain alone and normal clinical examination or should we tailor to age/risk? Further studies needed to understand the pathology and associated factors.

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P123. Why some of our patients with mastectomy chose not to have an immediate breast reconstruction? Patients' views from our breast unit at Kettering General Hospital

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Introduction: All women facing mastectomy should be offered an immediate reconstruction. Some patients chose not to have an immediate reconstruction for different reasons.

Aim: To explore the reasons behind declining an immediate reconstruction.

Methods: Between January 2010 and January 2012, all patients with mastectomy were identified. We excluded all patients when either an immediate reconstruction was done or not offered to them at the time of diagnosis. 34 patients were identified in which an immediate reconstruction was discussed but the patient chose not to have it. The patients filled in a questionnaire about the possible reasons behind their choice. Some patients selected more than one answer.

Results: The reasons behind their choice are listed in this table:

Answer	Number of times selected
My aim to get the cancer sorted out first.	21
Not interested because of my age.	18
The time was too short for me to consider anything more than mastectomy.	17
I was not concerned about my appearance.	9
I was afraid of the complications and the long recovery time.	8
There was too much information to take in at that time.	6
Not be safe to have it done with the cancer.	4

Discussion: Patient's anxiety because of the diagnosis of cancer, age and too short time to consider and decide are the main factors behind not having immediate reconstruction. Considering all these reasons and allowing more time with more information and support may help patients to consider this option in a better and positive way.

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P124. Routine follow-up of benign phylloides tumours is not indicated

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Introduction: Phylloides tumours are rare fibroepithelial breast tumours accounting for 1% of breast cancers. They occur more commonly with increasing age and are usually cured with local excision. No clear national guidance exists on the assessment, treatment and follow-up of these patients.

Aims: To determine the current follow-up practice and assess the recurrence rate of phylloides tumours across 2 trusts (10 breast surgeons).

Methods: Multicentre retrospective analysis of all cases of phylloides tumours on core and/or excision biopsy from March 2006 to July 2012 at Worcestershire Acute NHS Trust and Gloucestershire Hospitals NHS Trust.

Results: N = 94. Mean age 48. Mean clinical size 31.7mm, mean radiological size 35.4mm.

Excision margin of >1mm achieved in 62%. All 4 malignant phylloides reported as B3 Benign on core biopsy. 23 different follow-up regimes were observed. Follow-up length ranged from postoperative discharge to 4yr follow-up. 6 recurrent phylloides tumours were seen, 4 benign and 2 malignant. All benign recurrences were local and found independently of follow-up. The earliest recurrence was at 6 yrs and the latest at 10yrs. The 2 malignant recurrences were seen at 1 and 3 years post-operatively.

Discussion: There is no standard for the follow-up of benign or malignant phylloides tumours, which is demonstrated by the varying number of regimes demonstrated. This study suggests that in the benign group, the risk of recurrence is small and when it occurs is identified by the patient. We advocate no routine follow-up of this group. Malignant (or indeterminate) Phylloides tumours do require follow-up surveillance.

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P125. Selective tissue adhesion reducing seroma formation in extensive breast surgery: the application of TissuGlu® - only problematic case solver or possible standard procedure?

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Background: Seroma development remains a common postoperative complication after breast surgery.In up to 8-12% seroma formation leads to severe problems during postoperative care such as repeated fluid puncture and aspiration, wound healing disorders, surgical revision and therefore delayed start of adjuvant treatment. Postoperative seroma formation is a multifactorial process with an integral self-sustaining component as the fluid accumulation leads to spreading of the tissue surfaces averting local mechanisms promoting surface adherence and wound healing processes. The cavity and shearing forces between the tissue layers supports further seroma production. The surgical adhesive TissuGlu® is a lysine-derived urethane curing moisture behavior. The adhesive is resorbable and biocompatible and forms a bond between tissue layers. Operation principle lies in the reduction of the resection area through selective tissue adhesion and therefore reduction of the exudative surface.

Methods: Initially in our collective TissuGlu® was used in cases with excessive postoperative seroma formation needing surgical revision (n=3). After experimental verification of post interventional good response and smooth wound healing the indication was extended to primary usage in patients receiving mastectomy at high risk for wound healing disorders (n=4).

Results: In our patient collective a reduced seroma rate and a lower wound healing deficit could be surveyed. Accordingly the average length of time for drain removal could be shortened.

Conclusions: Our experience on few patients showed a benefit in problematic cases and may also indicate a reduction of seroma formation in subgroups of patients with extensive breast surgery with an expectedly high incidence of wound exsudate. Protectively collected date will clarify future use and economic profitability.

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P126. Is intra-operative touch imprint cytology of sentinel lymph nodes for breast cancer cost-effective in a district general hospital setting?

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Introduction: Touch imprint cytology (TIC) of sentinel lymph nodes intra-operatively is an established method of analyzing lymph node status for breast cancer patients. Due to a lack of resources and cytological expertise, this test is not universally available within the NHS. We have calculated the cost-effectiveness of intra-operative TIC of sentinel lymph nodes (SLN) since its introduction in our DGH.

Method: Data was collected between April 2010 and April 2012. 102 consecutive patients with invasive breast carcinoma were studied. Using a double-dye technique, SLN biopsies were sent intra-operatively for

TIC. Patients with positive nodes had axillary node clearance during the same operation. All samples were sent for final histopathological analysis. Cost-effective analysis was performed based on the number of re-do axillary operations avoided.

Results: 102 consecutive cases were studied. The majority (83 patients) had negative SLN involvement and 13 had positive SLNs, resulting in axillary clearance during the same operation. 11 false negative results (7 micrometastases) were identified along with 1 false positive result.

The sensitivity of TIC was 76.5% and the specificity 98.8%. Micro-metastases defined as <2mm were treated as negative results as recent studies from ACOSOG Z0011 have shown no survival benefit of further axillary surgery.

Conclusion: TIC is a cost-effective method of analyzing lymph node status intra-operatively in a DGH. Within the first 2 years of TIC we have managed to save 13 redo axillary clearance surgical procedures.

Furthermore, it serves to reduce patient anxiety, time and morbidity associated with a second surgical procedure.

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P127. Clinician-led financial review of breast cancer surgery – making the service sustainable

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Background: NHS trusts must reduce costs to meet available income from national tariffs. We describe the result of clinician led financial review of wide local excision (WLE).

Methods: Data from financial databases and theatre database covering all cases over a 12 month period and record review for selected cases in a teaching NHS Foundation Trust was performed by a senior surgical trainee with consultants, management, finance and information services.

Results: Mean WLE cost per inpatient was £2024 but income only £1645, resulting in a £378 loss. For day-case WLE loss was slightly lower-£323. The total loss on all WLE procedure groups was £97013/year.

Costs per case were: Theatre related 50%, pathology 20% and ward 19%. 66% of Day-cases had falsely high ward costs due to a systematic error in cost allocation.

In 30% cases the charged tariff was too low as 28% wire-guided excisions were coded incorrectly leading to undercharging of £338-486/case and sentinel nodes were not charged for. In addition the coding system did not take account of co-morbidities in 77% patients. Patients with co-morbidities attract higher tariffs of £200-300/case.

Discussion: This departmental service line reporting pilot informed clinicians and managers of possible improvements of pathways of care and efficiency savings with respect to Trust cost improvement programmes.

Routine co-morbidity recording in clinic letters, maximising same day discharges, addressing erroneous low tariff allocation, accurate ward charges and controlling theatre costs (consumables and theatre time) will all improve financial management. With these changes a small profit would be achievable.

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P128. Breast cancer surgery for the elderly – are we meeting a growing need?

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Introduction: NICE guidelines issued in February 2009 recommend surgery for breast cancer where possible over endocrine treatment. We aim to review management and proportion of patients presenting with breast cancer aged over 80 during a 12 year period and audit patients presenting after 2009 against NICE guideline and explore reasons for noncompliance.

Method: Retrospective audit of all patients presenting with breast cancer to a single high-volume centre from 2000-2012. One-tailed Fisher's Exact Test used throughout.

Results: 5446 patients were treated at our unit from 2000-2012 with the over 80s comprising 6.0-8.7% p.a. This age group increased over time by 29% from 6.5% in 2000-2003 to 8.4% (p= 0.0001) in 2009-2012. The population aged 90 or over increased by 50% from 1.7% to 2.6% (p= 0.06) in the same period See Table 1.

Table 1
Patients undergoing breast cancer surgery

Patients aged 80-89			Patients aged 90 and over		
2000-2008	2009-2012	p-value	2000-2008	2009-2012	p-value
267/396 (67%)	172/230 (75%)	0.03	18/64 (28%)	21/47 (44%)	0.05

The proportion of patients undergoing surgery increased following the 2009 NICE guidelines. Following introduction of regional anaesthesia without GA in 2011, the proportion having surgery aged over 90 increased to 16/25 (64% p-0.0031).

Of patients not having surgery after 2009, 48 were deemed unfit and 36 declined surgery.

Conclusion: The elderly are a growing part of our population of breast cancer patients. We have increased the proportion of elderly patients having surgery in line with NICE guidance, partly due to regional anaesthesia for breast surgery and modification of care pathways.

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P129. Managing the axilla after neoadjuvant chemotherapy – An alorithm approach

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Background: Data suggest neoadjuvant chemotherapy (NAC) can downstage the axilla in up to 40% of breast cancers, yet there is no consensus regarding timing and extent of axillary surgery post NAC. Sentinel lymph node biopsy (SLNB) after NAC is also debated. We performed a literature review and suggest an algorithm for the management of the axilla post NAC.

Methods: Available literature & trial data relating to the topic were reviewed. We then designed a suggested treatment algorithm for these patients, based on the available evidence.

Results: Level one evidence supports of SLNB post chemotherapy. No consensus exists regarding the management of the 'downstaged' axilla. National Trial data show low chest wall and regional node failure rates in these patients, especially when complete pathological response in the breast is achieved.

Conclusions: SLNB post NAC is possible, false negative rates are comparable to SLNB pre systemic treatment. We suggest an NAC-Axillary algorithm: Any patient with clinically involved nodes pre-NAC undergoes ALND post-NAC. All patients have pre-NAC axillary ultrasound (USS). If node negative pre-NAC, perform SLNB post-NAC. If SLNB positive, for

axillary lymph node dissection (ALND). If USS shows positive node but there is complete clinical response (CCR) and complete radiological response (CRR) post-NAC, for SLNB. If SLNB positive then ALND, if SLNB negative consider radiotherapy without ALND.

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P130. Sentinel lymph node biopsy is not indicated following a core biopsy diagnosis of ductal carcinoma in situ unless a mastectomy is being performed

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Introduction: NICE guidance advocates axillary sentinel lymph node biopsy (SLNB) in patients with a pre-operative diagnosis of ductal carcinoma in-situ (DCIS) undergoing breast conserving surgery (BCS) who are at high risk of invasive disease (in our unit: high-grade or mass-forming DCIS), or who are undergoing a mastectomy. This study aims to establish whether SLNB is indicated following a core biopsy (CB) diagnosis of DCIS without invasive disease.

Methods: A computerised database of pathology and operating records was created. All cases in which CB of breast tissue found DCIS were included. Cases where invasive disease was also present on CB were excluded.

Results: 235 patients (76 BCS and 159 mastectomies) underwent SLNB following a CB diagnosis of DCIS between 2006 and 2011. 73 (31.1%) patients had invasive disease on final specimen histology (36.8% for BCS, 26.1% for mastectomy). 17 of 235 (7.2%) patients had some SLNB involvement (9 macrometastases, 4 micrometastases, 4 isolated tumour cells). In 4 cases (all mastectomies) SLNB was positive (2 micrometastases, 2 isolated tumour cells) but no invasive disease was found in the breast.

Conclusion: SLNB is not indicated following a CB diagnosis of DCIS unless a mastectomy is being performed. If invasive disease is found on breast specimen histology, SLNB can be carried out at a later date. Even in this population of patients with high risk of invasive disease, this strategy would reduce axillary morbidity for 63.2% of BCS patients but at a cost of an additional procedure in 36.8%.

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P131. Male Breast Cancer and the role of genetic testing: should we introduce SIMBA (Screening In Male Breast cAncer)?

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Introduction: Breast cancer affects approximately 370 men each year in the UK. Men with BRCA2 mutation are 8 times more like to be affected than the general population. Little data from the UK exists pertaining to this topic. We evaluated incidence of male breast cancer in Merseyside, to assess the proportion of BRCA2 carriers and to explore if there is a benefit of known male gene carriers being offered screening.

Methodology: Retrospective cohort study of 5 centres in Merseyside reviewed male patients with breast cancer identified between 01/01/2000 and 31/10/2012. Data collected on family history, BRCA gene testing, histology and treatment.

Results: Forty-five patients identified; median age 70 years (range 37-93). All presented with a breast lump. Forty-one (91%) underwent mastectomy; 36 (80%) had grade 2/3 disease; 100% were ER+. Fifteen (33%) had involved lymph-nodes and 10 (22%) had lymphovascular invasion. All patients had anti-endocrine therapy, with 6 (13%) also undergoing chemotherapy. Six (13%) had a family history of breast cancer, 5 (11%) went on to BRCA testing, with only one (2%) having a documented BRCA2 mutation. The 5 year survival rate was 62% (16/26). 36% (4/11) of recorded deaths were related to breast cancer.

Conclusions: The regional incidence of male breast cancer in Merseyside appears lower than the national average. Our findings suggest men have higher grade, ER+ tumours and are likely to undergo mastectomy. Only a small proportion underwent BRCA testing, raising the question should we be testing all male breast cancers? Further work is ongoing evaluating BRCA2 rate in our region, in conjunction with the clinical genetics unit.

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P132. Information required for surgical decision making in young women with breast cancer

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Introduction: The POSH study was designed to determine if prognosis of young patients with sporadic breast cancer differed from those with hereditary breast cancer. Additionally it is not known if young patients with breast cancer have different information requirements to enable them to make informed decisions about oncological breast cancer surgery (breast conservation versus mastectomy).

Aims: To explore young women's information needs and the timing of information delivery during the treatment pathway.

Methods: Following ethical approval (REC-Reference: 10/H0504/87) twenty women who had a diagnosis of breast cancer at $\leq$40 were interviewed. In-depth semi-structured interviews allowed for wide and rich exploration of women breast cancer experience. Transcribed interviews were analysed under the Framework approach based on a theme categorisation.

Results: A comprehensive list of relevant information for decision-making was identified during the one-to-one interviews. Timing to deliver the information and preferred format was explored in a focus group of recently diagnosed young women. Information about impact of treatment on health and life and factors influencing the decision were two of the most frequently coded data. Eleven women discussed not having had enough information in a range of topics, from diagnosis to side effects of treatment in the short and long term, fertility preservation and reconstructive surgery options.

Conclusions: Women identify surgeon's advice as the main source of information for surgical treatment decision-making. Young women also observe however, that communication about surgery can be improved. Development of surgical information targeted specifically at young women with breast cancer is in progress.

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P133. Immediate free nipple-areolar complex autograft − A lost opportunity?

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Introduction: National mastectomy and breast reconstruction audits have shown an increase in uptake of immediate breast reconstruction (IBR). However, fewer patients are willing to undergo nipple reconstruction. The nipple is often discarded with IBR which may be a lost opportunity.

Method: All patients having skin sparing/reducing mastectomies with latissimus dorsi or inferior dermoglandular flap based IBR were considered for free grafts. Standard procedure involved initially harvesting a full

thickness nipple-areolar complex (NAC) graft. Prior to securing the graft after breast reconstruction, all residual retroareolar tissue was excised. The free NAC graft was secured with a continuous peri-areolar suture.

Results: Since November 2010, sixteen free NAC grafts were performed on fourteen patients. Median age at surgery was 54 (range 44-66) years. BMI ranged from 20.5−35 (median 25.4). Two patients were diabetic, three were smokers. One free NAC graft was placed on the donor paddle of a latissimus dorsi flap; all other free NAC grafts were placed on the skin flaps of a dermoglandular reconstruction centred approximately 8cm from the inframammary fold.

Three grafts developed partial necrosis. Two patients had no identifiable risk factors, one of whom also developed skin breakdown and implant extrusion. The third patient was obese and a smoker who also encountered wound breakdown though no implant loss. No significant pathology was found on histology of retroareolar tissue.

Conclusion: Utilising a free nipple graft offers oncologically safe immediate NAC reconstruction. This avoids the need for subsequent tattooing of the NAC and should be considered with immediate breast reconstruction.

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P134. Features of breast cancer in patients with family history

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Background and aim: We audited our Family History Breast Clinic (FHBC) activity to identify pathological and treatment variables of Breast Cancer (BC) in this group of patients.

Methods: Retrospective review of 5-years activity of FHBC to identify patients who developed BC, their pathological subtypes and treatment given.

Results: Out of 698 patients, 54 developed BC (8%) over the 5-year period (1.6% per year). 29 patients (54%) developed BC at/or before age of 50, and 25 (46%) above age of 50, median age: 50 (range 29-69). 29% of genetically-tested patients had mutations (18% of all 54 patients). 11% of patients had DCIS, 63% had Invasive BC (IBC) and 26% had mixed disease (total IBC 89%). 6% had bilateral disease at diagnosis. 50% of DCIS was high grade. 54% of IBC was grade-3, 40% grade-2 and 6% grade-1. 69% of IBC was ER-positive and 19% HER2-positive. 72% of patients opted for mastectomy and 25% opted for contra-lateral Risk Reducing Mastectomy (RRM). 43% had Breast Reconstruction (BR) and 50% had Axillary Node Clearance (ANC). 72% of patients had chemotherapy and 59% had radiotherapy. 11 patients out of the 54 (20%) had either further BC or recurrence.

Conclusion: In screening patients with family history of BC, cancers occur at young age, are more often invasive and of high-grade. Patients are more likely to have mastectomy and ANC with a significant fraction opting for contra-lateral RRM and BR. The relatively high risk cancers detected have impact on the use of adjuvant treatments and survival expectations.

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P135. Volume of axillary metastases in patients with early breast cancer and a normal grey-scale axillary ultrasound

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Introduction: In patients with early breast cancer, there is trend towards conservative axillary surgery. Determining which patients are at risk of high volume axillary metastases may be important for appropriate surgical planning.

Methods: 381 patients with primary breast cancer and a normal grey-scale axillary ultrasound were included in the study. All patients had enhanced pre-operative axillary staging using contrast enhanced ultrasound (CEUS) and underwent tumour excision and axillary node clearance (ANC) or sentinel node biopsy (SNB) +/- ANC. Histopathological analysis included immunohistochemistry for tumours with a lobular phenotype.

Results: 92 patients were found to have lymph node (LN) metastases. Of these, 77 had ANC and 15 had a SNB only. The overall prevalence of LN metastases in patients with invasive disease was 24%. In total, 31% had ITC or micrometastases and 86% had no more than 4 LN involved. Increasing tumour size and grade was associated with an increase in the prevalence of LN metastases as was the lobular phenotype. However, the volume of axillary metastases did not show a positive correlation with increasing tumour size or grade. The lobular phenotype was associated with a much higher proportion of ITC. The frequency of ITC was also relatively higher in T2 and G2 tumours.

Conclusions: The majority of patients with early breast cancer and a normal grey-scale axillary ultrasound do not have axillary LN metastases. In those patients with axillary LN metastases, our data suggests that the volume of disease within the axilla remains constant despite advancing tumour size and grade.

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P136. Breast Screening and repatriation in North West London: A patient's choice

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Introduction: Patients in North West London with a screen detected cancer receive their results centrally at Charing Cross Hospital (CXH). At this clinic patients can chose to receive treatment at their local hospital or CXH. We aimed to investigate the factors that influence hospital selection.

Methods: Patients who requested treatment at CXH were asked to complete a questionnaire on the day of surgery. Local hospital was determined using postcode. Patients were asked to rate the factors influencing their choice of hospital. We asked if patients had prior experience of CXH or their local hospital.

Results: 24 patients completed the questionnaire (11 local to CXH, 13 not local to CXH). In the non-local group, meeting the CXH team (11), efficiency of the CXH clinic (7) and reputation or previous experience at their local hospital (7) most commonly influenced decision making. 6 of the non-local group would have initially preferred to receive their results locally, but changed their decision following the CXH clinic. Only 4 had met their local breast team. Travel (10) and proximity to local hospital (10) were the strongest influences in the group local to CXH.

Conclusion: Over 50% of patients treated at CXH were not from the area local to CXH. Those not local were impressed by their experience in the clinic. Few had met their local breast team suggesting that if results were given locally patients may feel more comfortable choosing to be treated there.

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P137. Neoadjuvant chemoradiotherapy and immediate free breast reconstruction - a new treatment sequence for managing locally advanced breast cancer

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Introduction: If patients could have combined neoadjuvant chemoradiotherapy with oncological efficacy, then mastectomy with immediate reconstruction (TRAM/DIEP) could achieve a shorter, simpler reconstructive journey and better cosmesis. We have developed such a treatment protocol. Data are mean±SD.

Methods: Inclusion/exclusion criteria select patients suitable for neoadjuvant chemoradiotherapy and likely to require mastectomy. Response to chemotherapy is followed by radiotherapy, mastectomy/axillary surgery after which immediate reconstruction (TRAM/DIEP) is performed within 6 weeks. Non-responders are offered early mastectomy, tissue expander reconstruction, adjuvant radiotherapy then similar definitive reconstruction. Local and systemic recurrence rates, disease free survival and aesthetics are examined.

Results: Between 2010-2012, 10 mastectomies and reconstructions (DIEPs) were undertaken in 10 patients age 56±7 years. There were no microvascular complications but partial loss of native mastectomy skin flap occurred in the first case. Follow up extends to 11±6 months during which there have been no local or systemic recurrences. Aesthetic results are good.

Conclusions: This new treatment sequence avoids the drawbacks of traditional staged treatment by optimising oncological management and surgical planning. It shortens and simplifies the reconstructive journey for the patient by means of a single operation that includes gold standard reconstruction, offering better cosmetic results, fewer complications and reduced costs.

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P138. BRCA1/2 Mutation carrier clinic: Impact on a reconstructive surgical oncology service

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Introduction: Multidisciplinary BRCA 1/2 mutation carrier clinics (MBC) are designed for: Tailored, hereditary breast cancer risk management; Counselling & support; and the facilitation of clinical research trials. Our institution's MBC sees just under 100 referrals annually from South East London, Kent and East Sussex. This has resulted in the initiation of appropriate mammographic and MRI surveillance in 19% and 88% of attendees respectively; and 18% uptake of risk reducing mastectomy [Pichert G et al 2010]. We undertake summary descriptive analysis of BRCA mutation carriers (BC) undergoing risk reducing mastectomy and immediate breast reconstruction via the breast oncology service.

Methods: All patients eligible for immediate breast reconstruction following mastectomy [POBRAD trial] were prospectively screened with ethics approval (July 2011 − July 2012). Sub-set frequency distribution analysis was performed on all accrued BCs.

Results: BCs form over a third of our breast reconstruction caseload.

Conclusion: BCs present unique challenges which include multi-faceted cancer risk management and tailored intervention (18%) when required.

Frequency Characteristics	BRCA 1/2 carrier cohort (n= 12, 28.6%)	POBRAD trial cohort (n= 42, 100%) * unpublished data
Age at time of surgery (years) - median [IQR]	42.7 [37.7, 50.8]	48.9 [40.7, 58.2]
No. presenting with a diagnosis of breast cancer [%]	3 [25]	33 [78.6]
BMI (kg/m2) - mean [SD]	23.7 [3.4]	24.6 [4.2]
No. undergoing adjuvant therapy [%]	2 [16.7]	*
No. undergoing unplanned surgical interventions [%]	4 [33.3]	*
Unplanned intervention resulting in implant loss [%]	1 [8.3]	*

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P139. Completion axillary clearance following a positive sentinel node - A retrospective study

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Introduction: Much controversy surrounds the topic of axillary clearance (ANC) following positive sentinel lymph node biopsy (SLNB). The aim of this study was to identify the extent of metastatic disease found on ANC following positive SLNB in early detected breast cancer.

Methods: Pathology reports of 458 patients who underwent SLNB for breast cancer from June 2010 to April 2012 were analysed. Of those patients who had positive sentinel nodes, we identified whether ANC had been performed, and if so whether further metastases were found.

Results: 14.8% (n= 68) were found to have a positive SLNB, defined as micrometastasis (<2mm), macrometastasis (>2mm) or isolated tumour cells (ITC). 79.4% (n=54) were macro metastases, 20.6% (n=14) were micrometastases. No patients had ITC identified.

Of those patients with macrometastases, 88.9% (n=48) underwent ANC. 12.5% (n=6) had one positive node identified, 4.2% (n=2) had 2 positive nodes and in 81.2% (n=39) no positive nodes were identified. One patient (2.1%) had 8 positive nodes with soft tissue invasion and extracapsular spread.

21.4% (n=3) of patients with micrometastasis underwent ANC, none of which showed further metastases.

Conclusion: In keeping with current research, this study agrees progression to ANC after positive SLNB is not always necessary, as in the majority of cases does not identify any further metastatic disease, and may lead to long term morbidities which can have a detrimental effect on quality of life.

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P140. Micrometastasis in axillary lymph nodes: A five years review

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Introduction & review of literature: Micrometastasis: A lymph node metastatic tumour deposit with diameter 0.2 − 2 mm (pNmi); Isolated Tumour Cells: A lesion of single tumour cell, or small cell clusters with diameter < 0.2 mm [pN0(i+)]

NICE and ASCO guidelines state that axillary clearance should be done for positive SNB. ACOSOG Z0011 trial showed no trend toward clinical benefit of axillary clearance for patients with limited nodal disease. Other local European studies with limited numbers.

Method & results: 61 patients were diagnosed with axillary nodes micrometastasis at the RD&E from January 2007 until October 2012.

They were subdivided into 3 groups:

• Group 1: 11 patients had initial axillary clearance for different indications. One patient for a pre-op biopsy that showed micrometastasis. The removed nodes showed micrometastasis. On follow-up, one patient developed lymphoedema. One patient developed distant metastasis after one year of disease-free survival.

• Group 2: 25 patients who had initial SNB that showed micrometastasis and had further axillary clearance. Only one patient showed metastasis

in non-sentinel node on further clearance. 2 patients developed lymphoedema on follow-up. No regional recurrence or distant metastasis.

• Group 3: 25 patients who had initial SNB that showed micrometastasis and didn't have further axillary clearance. None of them developed lymphoedema on follow-up. However, 3 developed distant metastasis after 1, 4 and 5 years of disease-free survival periods.

Conclusion:

• Because of the small numbers, it is not possible to get definitive guidelines as regards ideal management of micrometastasis in SNB. A wider study is needed on national level aiming at changing guidelines and maybe avoiding routine axillary clearance for this group.

• There is a difference in rate of lymphoedema; but a larger study is needed to compare the rate of recurrence and disease-free survival.

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P141. The use of Strattice™ in immediate implant based breast reconstruction in higher risk patients

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Introduction: There has been an increasing use of acellular dermal matrices in immediate implant based breast reconstruction (IBR) due to advantages which include natural ptosis, total implant coverage, and increased initial fill volume offering the possibility of a single stage procedure. Complications such as infection leading to unplanned revisions or implant loss, has led some units to exclude smokers and diabetics. We present our experience using Strattice™ in 22 patients.

Methods: Data on 22 women undergoing Strattice™ assisted IBR between March 2010 and July 2012 was collected from a prospectively maintained database, which included demographics, co-morbidities, operative details, complications, histology and adjuvant treatments.

Results: Four patients were smokers, 5 were obese, 3 had had recent breast surgery, and one was diabetic. One patient had neoadjuvant chemotherapy, 7 women had adjuvant chemotherapy and 5 had adjuvant radiotherapy. Four patients (18.2%) experienced significant complications including two patients with implant loss (9.1%), one due to infection and another due to skin flap necrosis. One of these patients had had recent breast surgery and was obese; the second patient had no risk factors. There have been no recurrences identified to date. Histopathology of Strattice™ biopsy taken at second operations showed full integration of the host tissues, including patients with diabetes and smokers, and in the two patients with implant loss.

Conclusion: This data suggests that Strattice™ may be used in IBR in higher risk patients with acceptable surgical and cosmetic results. We would, however, not utilise it post radiotherapy.

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P142. The incidence of rupture of the 'Poly Implant Prosthèse' breast implants and the impact on breast cancer services over one year

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Introduction: In the latter part of 2011, there was a major safety concern surrounding the integrity of PIP implants. At this point, the NHS agreed to remove implants even though the majority of PIP implants were inserted in the private sector. During the first few months following the outcry it was unclear about the incidence of rupture and how the number of referrals would impact on the breast cancer referral service.

Methods: We performed a prospective audit of all patients who presented to BSOPC with silicone implants between January and November 2012. Symptoms, clinical findings and radiological assessments were evaluated. The total number of referrals over this period was also included.

Results: A total of 73 patients were referred and 68 presented to the BSOPC. A total of 53 patients (74%) of patients were symptomatic. 23 (30.5%) patients had radiological signs of implant rupture, 72.5% of whom were symptomatic. The median time from referral to being seen was 26.5 days. The majority of referrals (94.5%) were made in the first 6 months which represented 4.8% of the total number of new patients seen during this period.

Conclusion: Overall the incidence of rupture was 30.5% however this does not always correlate with symptoms or signs. The biggest impact of the 'PIP scare' on our service was in the first 6 months of the audit and represented 4.8% of the new patient referrals. This represented a significant increase in workload however this has been transient as fewer patients are now being referred.

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P144. Outcome of triple negative breast cancers - does aggressive surgery reduce the mortality?

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Aim: Triple Negative Breast Cancers (TNBC) is estrogen, progesterone and Herceptin receptors negative. TNBC patients have poor prognosis with a higher early local recurrence rates and distant metastasis. We reviewed outcomes for TNBC in our unit and compared mortality rates between aggressive surgery and breast conserving treatments.

Methods: A retrospective review of patients with TNBC treated at our unit over previous 5 years using the hospital database and electronic records.

Results: A total of 110 patients with TNBC identified (12% of Breast Cancer patients).Eighty percent of TNBCs were invasive ductal carcinoma and 7% had meta-plastic carcinoma. Eighty five percent of tumours were grade 3, DCIS was present in 44% and 36% had positive lympho-vascular invasion. While 49% of patients had mastectomy, 51% had wide local excision of which 10% went on to have mastectomy. 40% had axillary node clearance (ANC) and 60% had Sentinel Lymph Node Biopsy of which 14% proceeded to ANC. Adjuvant treatment was given to 75% - Chemotherapy (13%), Radiotherapy (20%), combination of both (42%). Local recurrence rates were 6.3% and mortality was 30%. Mortality in patients, who had mastectomy with ANC was still found to be higher.

Conclusion: TNBC formed treated in our unit had higher local recurrence rates and triple the mortality compared to other breast cancers. Aggressive surgical treatment such as mastectomy with axillary node clearance has not made a difference to the mortality in our small study.

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P145. Clinic letters; how well are we communicating?

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Introduction: Clinic letters are an important tool of communication between health professionals and patients. Department of Health guideline indicates that all patients should receive their clinic letters, but the content should be adjusted, for example, not including raw data. This audit aimed to assess the compliance to the DoH guideline and highlight the wide range of variations between the letters.

Method: There were total of 18 clinics from six consultants every week. Dating from 09/05/12 to 18/05/12, clinic letters for ten randomly selected patients from each clinic were obtained, including additional referral letters. A total of 141 clinic letters were analysed for primary recipients, additional recipients, layout, and contents.

Results: 51% of the clinic letters were sent to the patients. Two consultants comprised of 26% that were primarily addressed to the patient while the other 25% was mainly achieved by one other consultant. There was only one letter that indicated that the patient had declined to receive the letter. 54% of the letters were in freeform and 46% were in a mix of freeform and pro-forma. Collectively, 90% of the letters included clinical presentation and follow-up with 82% indicating the working diagnosis but again, there was a variation between the consultants and clinics.

Conclusion: Currently, the department is not fully complying with the DoH guideline and should endeavour to improve this. The letters include varying information and a uniform pro-forma with additional freeform is also recommended to ensure all important clinical information is included.

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P146. Breast self-examination: A novel health promotion medium

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Introduction: The rapid increase in popularity of mobile technology amongst the general population mean that medical 'apps' could provide a new medium for health promotion and breast self-examination. This study aims to quantitatively identify the number of breast self-examination apps available and qualitatively assess the common features of these apps.

Methods: A systematic search of the Apple iTunes store was carried out using keywords related to breast screening and self-examination. Apps that failed to meet strict inclusion criteria were discarded. Each summary page was reviewed and data extracted using a standardised form.

Results: Initially 369 apps were identified. These could be broadly broken down into 3 subject categories – breast cancer and self-examination apps, breast-feeding apps and irrelevant 'spoof' apps. 5.4% (n=20) met the inclusion criteria. Only 5 were also available for the Android platform. The majority (n=18) were free to download. Features common to these self-examination apps included:

- Questionnaire related to breast 'red flag' signs and symptoms
- Instruction guidance in the form of images or video
- Advice to seek medical attention if appropriate
- Automated reminders to complete self-examination

Conclusions: There are a number of apps with useful functionality available which healthcare professionals can recommend for breast self-examination purposes however it is unlikely that a patient will be able to reliably find these apps themselves given the number of irrelevant 'spoof' apps available. Mobile technology offers a number of advantageous features over traditional methods. Further research needs to evaluate the efficacy of mobile apps for breast self-examination purposes.

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P147. A retrospective cohort analysis: Are prophylactic antibiotics required prior to needle localised breast surgery?

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Introduction: Breast Cancer is the most common female cancer, resulting in the highest rate of female cancer related mortality. Wide local excision is the commonest surgical procedure performed for breast cancer and commonly requires needle localisation. Prophylactic antibiotics have been shown to lower the risk surgical site infections in several specialties. However, their use in breast cancer surgery is controversial. We have retrospectively examined the rate of surgical site infections after needle localised breast surgery and whether this was improved with peri-operative antibiotic cover.

Method: Retrospective analysis of infection rates for all needle localised breast surgery at Worthing Hospital between 31/10/11 and 30/4/12. One surgical team routinely prescribes peri-operative antibiotics and the other does not. Theatre lists were retrieved from the hospital database. The breast care nurses notes were reviewed for evidence of surgical site infections as per the CDC/NHSN surveillance definitions. The hospital database was also reviewed for post operative wound culture results.

Results: A total number of 92 needle localised breast surgical procedures were performed (51 who received prophylactic antibiotics and 41 who did not). Infection rates were 11.76% and 17.7% for the antibiotic group and the control group respectively. This difference was found not to be statistically significant (OR=0.61 ((95% CI 0.20, 2.10), RR=0.69 (95 % CI 0.25, 1.89), RRR=31.1% (95% CI -0.89,0.75), NNT=18.83)

Conclusions: This study suggests that there is no benefit for prophylactic antibiotics for needle localised breast surgery. Double blind randomised placebo control studies would help strengthen this evidence.

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P148. A new level 1 oncoplastic technique for breast conserving surgery: Rotational glandular flap

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Introduction: When performing conservative surgery for breast cancer, breast reshaping can be a challenging procedure. This is particularly true for upper inner quadrant tumours. Level 1 oncoplastic surgery techniques, i.e. advancement or rotation of glandular flaps into the cavity should preferentially be performed when less than 20 per cent breast volume is excised.

Method: A new Level 1 OPS technique based on the rotation of a wide centro-lateral glandular flap into the cavity is described.

Results: The principle of the technique is to create a centro-lateral glandular flap after extensive undermining of the skin and nipple areolar complex. This flap is then rotated medially into the excision cavity to fill the defect.

Conclusion: The rotation glandular flap is a new technique for use following a wide excision. It should be used in glandular, not fatty, breasts, and when standard closure of the cavity would not leave a satisfactory cosmetic result.

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P149. Effectiveness of breast cancer follow up in hospital

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Aims:

- Review breast cancer follow up practices
- Explore patients opinion on follow up arrangements

NICE clinical follow up guidelines:

- Patients may choose follow up in primary, secondary or shared care
- Agreed written care plan should be recorded by a named healthcare professional(s) with a copy to GP and patient
- Care plan should include
  i. Named healthcare professional
  ii. Symptoms and signs to look for
  iii. Contact details for immediate referral

iv. Current follow up arrangements include five years:
a) between surgeon and oncologist every six months for high risk
b) surgeons' follow up only for low risk
c) oncology follow up only for advanced and metastatic disease

Methods and results: Questionnaire survey of patients completed 2 years follow up. 51 patients included - 46 patients responded (92%). 97.8% of this group of patients were happy with the current follow up arrangements

Discussion & conclusions:

- No evidence of beneficial outcome of long term follow up of breast cancer in hospital
- Majority of patients surveyed are happy with current arrangement
- Lack of community based support services to this group of patients

Recommendations:

Early written information to patients and their general practitioners on plans of follow up will make transfer to community based follow up arrangement easy

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P150. A comparative study of analgesic requirements in patients undergoing muscle sparing Latissimus Dorsi (MSLD) and Latissimus Dorsi (LD) flap breast reconstruction

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Introduction: The Muscle Sparing Latissimus Dorsi (MSLD) flap utilizes only the lateral segment of the muscle containing the descending branch of the thoracodorsal artery with its thoracodorsal artery perforators to supply the skin paddle and fascial components of the flap. The aim of this study was to determine the postoperative analgesic requirements of patients undergoing a standard LD reconstruction compared to the MSLD.

Methods: Consecutive patients undergoing MSLD and LD breast reconstructions were identified. All patients received postoperative analgesia using morphine via a patient-controlled analgesia (PCA) infusion pump. The patient's weight was used to calculate total morphine dose adjusted for weight (in milligrams per kilogram) in order to allow comparison of requirements. The total operative time and hospital stay were also recorded.

Results: During the study period 15 patients underwent unilateral MSLD and 20 patients unilateral LD reconstructions. Independent samples t tests revealed a significant difference in postoperative analgesic requirements. The MSLD required significantly less total PCA in comparison to the LD group (MSLD Mean 0.498 mg/kg vs LD 0.935 mg/kg, $p<0.05$). The MSLD also had a shorter hospital stay (MSLD 5.0 days vs LD 6.85 days, $p<0.01$). The operative time was similar in both groups. No differences were found for bilateral MSLD and LD reconstructions although the number performed was small.

Conclusion: The MSLD results in a shorter hospital stay and less postoperative analgesic requirements compared to the LD flap without any additional operative time.

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P151. Axillary recurrence in node positive patients following axillary node sampling

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Introduction: There is current debate on the optimum management of breast cancer patients with positive sentinel node biopsy with increasing advocacy for a more conservative approach. The aim of this study is to review the risk of axillary recurrence in node positive patients following axillary node sampling (ANS).

Methods: The database was reviewed for all patients with invasive breast cancer who underwent ANS from 1 January 2005 to 31 December 2010. The axillary recurrence rate was determined in patients who were node positive but had no further axillary surgery.

Results: There were 355 cancers in 348 patients (7 bilateral) treated with ANS. Mean age 61 years. 257 patients (72%) had breast conserving surgery and 98 (28%) mastectomy. Tumour type: Ductal 280 (79%); Lobular 41 (11%); others 34 (10%). Mean tumour size was 2cm (0.3 – 7.0cm). The mean number of nodes sampled was 6 (1-19). 247 (70%) were node negative and 108 (30%) node positive. The mean number of positive nodes was 2.3 in the node positive group. Of the node positive patients, 4 (4%) had axillary node clearance and 104 (96%) had no further axillary surgery. In the node positive group, 86% received hormonal therapy, 88% received radiotherapy and 49% received chemotherapy. Mean follow up was 54 months (41-76 months). There were 3 axillary recurrences in the node negative group and none in the node positive patients.

Conclusions: Conservative management of the axilla in node positive patients after axillary node sampling does not increase the risk of axillary recurrence.

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P152. Dual assessment instead of the triple assessment for under 25s: Time for a change in practice?

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Introduction: According to ABS guidelines some solid breast lesions may be safely diagnosed using clinical and imaging information and do not require needle biopsy. The aim of our study was to identify the role of needle core biopsy in patients up to the age of 25 years.

Methods: All patients up to the age of 25 years presenting to a one stop breast clinic and having a needle biopsy between Jun 2009 and Nov 2012 were included. Their clinical findings, ultrasound features and biopsy results were recorded.

Results: One hundred patients were identified including 94 women and 6 men. The median age was 21 years (range 15-25). 71 patients (71%) had ultrasound category U1-2; all had benign histology on needle

Histology	Ultrasound findings				Total
	U1	U2s	U3	NA	
Fibroadenoma		53	13		66
Fibrosis/fibrocystic	2	9	7		18
Sclerosing adenosis		1	3		4
Eczema	3			1	4
Gyneaecomastia	3			3	6
Lipoma			1		1
Cancer			1		1
Total	8	63	25	4	100

core biopsy. 25 patients had U3 lesion and 1 patient was diagnosed to have cancer.

Conclusion: In patients up to the age of 25 years, needle biopsy can be avoided if they have normal/benign clinical examination (P2) and normal/benign ultrasound findings (U1-2). In our study 71% of patients could have avoided needle biopsies. Reducing the number of biopsies in this group will minimize psychological distress for the patients, reduce cost of care to hospitals and also free up breast services to provide quality care to cancer patients.

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P153. Single surgeon experience of therapeutic mammoplasty

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Introduction: Therapeutic mammoplasty surgically treats breast cancer whilst maintaining oncological safety and improving cosmetic outcome. We present a descriptive analysis of our first 25 consecutive cases.

Methods: Data was prospectively collected on the first 25 consecutive mammoplasty operations performed by a single surgeon.

Results: 25 women had a mammoplasty (20 therapeutic, 4 reduction, 1 bilateral reduction for macromastia). The average age was 53.3 years (31 − 66yrs)

Therapeutic mammoplasty analysis - 3 patients had neo-adjuvant chemotherapy. 2 patients had a mammoplasty to clear margins after WLE. 6 patients had multi-focal disease. Average tumour size was 25.2 mm (1.5mm − 59mm). Average resection weight was 396 g (60 − 1951g). Average margin ranged from 1.6 − 40mm for invasive disease. There was not consistent reporting of the margins − some reports stated accurate measurements for all 6 margins, whilst others reported that the margins were clear. 2 patients had positive margins. One had a mastectomy, and the other had a re-excision.

2 patients (10%) had a focus of invasive cancer in the contralateral reduction specimen, which were mammographically occult. The follow-up is short (1-15 months). 1 patient developed a bone metastasis, but there were no cases of local recurrence

Conclusions: Therapeutic mammoplasty is a safe operation. Use of photography at MDT will help identify women suitable for this operation.

For future audit of mammoplasty results, it is important to clarify with pathologists the level of detail needed in the pathology report. All margins should be accurately recorded for both invasive and pre-invasive disease.

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P154. Is nipple smear cytology a useful tool in assessing patients with nipple discharge? Audit at Bolton Breast Unit.

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Introduction: The usefulness of nipple smear cytology in assessing patients with nipple discharge is controversial. Nipple discharge can be physiological, multiductal, bilateral, coloured and expressed, associated with benign disease. Conversely, nipple discharge may be pathological, uniductal, unilateral, clear or blood stained and spontaneous, associated with malignant disease. Nipple discharge is most strongly associated with benign intraductal papilloma. An audit was conducted at Bolton Breast Unit to assess the outcome of individuals with atypical nipple smear results.

Methods: The results of all patients undergoing nipple smears (n=121) at Bolton Breast Unit between January 2010- January 2012 were divided into: normal, insufficient and atypical in accordance with ABS guidelines. Those with atypical smears (n=23) were reviewed to assess surgical and histological outcome.

Results: 19% were atypical, with epithelial cells, blood or suspicious cells present. The majority of atypical smears were from uniduct discharge (n = 16, 2 multiduct, 2 unrecorded). All clear discharge was pathological but the numbers were small (DCIS n=2, intraductal papilloma n=1). Spontaneous discharge was also more likely to be pathological.

Conclusion: Nipple smears are useful in the diagnosis of pathological disease when the discharge is uniduct, clear or blood stained and spontaneous. However, numbers are small and further studies of larger cohorts may support this. It would have been useful to confirm this by determining what the discharge was like in the non atypical smears.

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P155. Breast cancer awareness month: does it really increase the breast cancer risk awareness?

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Breast cancer awareness month (BCAM) is an annual international health campaign organized by major breast cancer charities every October to increase awareness of the disease and to raise funds for research into its cause, prevention, diagnosis, treatment and cure. We aimed to assess breast cancer risk awareness amongst hospital staff with relevance to BCAM.

Methods: A short questionnaire of fifteen possible risk factors for breast cancer was given to the hospital staff nurses. They were asked to recognise these risk factors as yes/no/do not know. The survey was carried out in two phases; phase 1 was Pre-BCAM, in the month of September and the phase 2 was Post-BCAM, in the month of November.

Results: A total of 73 hospital staff nurses were surveyed, 34 in September 2012 and 39 in November 2012. A 100% response rate was observed. Median correct response rate was 50% in Sep and 46% in Nov with no statistically significant difference (p=0.64) between the two months.

Conclusions: BCAM failed to increase hospital staff's awareness of breast cancer risk factors, paradoxically a decrease in risk recognition was observed after the BCAM. Stronger strategies than just naming a month for breast cancer are required to enhance public knowledge of the disease.

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P156. The accuracy of pre-operative radiological assessment of breast cancer size

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Background: Breast cancer size is a crucial factor to determine prognosis and pre-operative planning for breast conserving surgery. Breast cancer size can be assessed pre-operatively by clinical examination and radiological assessment. Ultrasound scan and mammography are considered the main radiological modality used routinely to assess breast cancer pre-operatively. The aim of this study is to investigate the accuracy of assessing breast cancer size by pre-operative breast ultrasound scan and mammogram with comparison to the final histological report.

Methods and materials: A retrospective study in a single breast unit was undertaken. 50 patients with breast cancer underwent a radiological pre-assessment of the tumour size which included mammography, ultrasound. Patients subsequently either underwent a breast conserving surgery (BCS) or mastectomy. The largest dimension of the breast cancer reported on mammography and ultrasound was documented and compared with the largest tumour dimension on histology report.

Results: The age range of the patients was 30-90 years old with average age of 62. 34 (68%) patients had BCS and 16 (32%) patients had mastectomy. The mean mammogram, ultrasound and pathology size was 19.85mm, 17.79mm and 21.77mm respectively. Three of these patients had further surgery for involved margins. One patient had two further surgeries for involved margins. All patients with involved margins had DCIS which was undetectable radiologically. There was a correlation between mammographic and pathological tumour sizes (P=0.002), and also between ultrasound and pathology tumour sizes (P<0.0001).

Conclusion: In this study, Mammogram and USS were both sensitive modalities in accurately detecting breast tumour size.

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P157. Breast cancer in young women: the Brighton experience

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Introduction: Breast cancer occurring in women under 40 years is uncommon. The risk of developing breast cancer before the age of 40 is estimated to be 1 in 207. However it strikes when these women are at the peak of their reproductive years, family life and careers. While breast cancer risk is lower, in young women it tends to be more aggressive and the biology driving it is yet poorly understood. The aim of this study is to analyse epidemiological, clinicopathological and biological features.

Methods: retrospective study involving 76 patients aged 39 and younger with the diagnosis of invasive/insitu breast cancer between January 2008 and May 2012.

Results: the incidence in our series was 3.5%. Median age was 36 years (range 25-39) and 8 patients (10.5%) were BRCA positive. Median tumour size was 38mm (range 5-116mm) and 13 patients (17%) had multifocal disease. The tumour type was invasive ductal carcinoma in 71 patients (93.4%). 54% had grade 3 tumour and 42% had lymph nodes involvement. 24 (31.6 %) cancers were triple negative and in 7.8% of cases HER-2 was over expressed.

Conclusions: our study shows that breast cancer arising in women under 40 years of age has aggressive biological characteristics, including high histological grade, lack of hormone receptor and high rate of triple negative. These results fit with other similar studies, however further research is much needed in this field to better understand this complex disease and offer to this group of women better preventative and therapeutic options.

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P158. Carcinoma en cuirasse: never give up.

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Carcinoma en cuirasse is a rare form of cutaneous metastasis which can present as small areas of thickening and induration or as large plaque like areas encasing the thorax, often as a result of metastasis from a primary breast lesion. As breast cancer treatments evolve, such cases are increasingly rare.

We present a patient with extensive neglected locally advanced bilateral breast cancers, measuring over 40 centimetres. Biopsy confirmed this to be a grade I mucinous carcinoma. She was staged and noted to have distant metastases and a quiescent pulmonary embolus, but remained well. She was commenced on letrozole and remained well controlled for 18 months until she progressed. She was then switched to exemestane for three months but progressed before finally commencing fulvestrant which also proved ineffective.

Her tumour often bled, causing her hospitalisation when her haemoglobin was noted to be 6.9. Once all endocrine therapies were exhausted she underwent palliative radiotherapy in an attempt to reduce the bleeding, with good results.

In this era of increased awareness such extensive cases are rare and thus many clinicians may choose not to treat these patients. Surprisingly, such cases don't have major metastatic tumour burdens and therefore, with local control, many can survive beyond their expected prognosis. This patient survived a further two years and seven months and as is often the case, died from a non breast related event. It is therefore prudent to consider that modern breast cancer treatments can palliate even the most aggressive forms of metastatic disease.

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P159. Initial experience of the use of a titanium-coated polypropylene mesh (TiLOOP Bra) for immediate implant-based breast reconstruction.

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Introduction: We report initial experience using an ultra-light ($16g/m^2$), bio-compatible Titanium-coated polypropylene mesh (TiLOOP Bra) in immediate single-stage fixed-volume implant-only breast reconstruction. These meshes are used in a similar way to Acellular Dermal Matrices (ADM).

Methods: This was a prospective audit of women with primary breast cancer who underwent immediate single-stage fixed-volume implant-based breast reconstruction using TiLOOP Bra. Patients were selected on good skin envelope quality. The mesh was sutured from the lower border of the pectoralis major muscle to the infra-mammary fold similar to an ADM. Data on demographics (age, ASA grade, BMI, Diabetes, smoking status, previous radiotherapy) and early post-operative outcomes (infection, seroma, hospital stay and early aesthetic appearance) were collected.

Results: Four patients have undergone this procedure (age range 48-65 years). ASA Grade was 2 in all cases. None of the patients had had previous radiotherapy or were diabetic. There was 1 ex and 1 current smoker. Mean BMI was $24.3kg/m^2$. All patients had one stage fixed volume implants inserted. Drains were used in all cases and removed on day 5 (median). Two patients developed post-operative seroma, one required ultrasound-guided aspiration. One patient was readmitted for intravenous antibiotics for cellulitis. There are no cases of malposition or implant loss to date. Median follow up is 3 months. One patient requires adjuvant radiotherapy.

Conclusions: TiLOOP Bra in selected cases is safe and achieves good early cosmetic results. This is the largest UK series to date. Longer term follow up is required.

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P160. Identifying the patient with "minimal nodal disease" – a cautionary note

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Introduction: There is controversy and disagreement among breast surgeons regarding the management of biopsy or sentinel node proven malignant axillae. New trials propose observation without active treatment. This study examines the results of axillary ultrasound (AUS) in achieving a non-operative diagnosis of a malignant axilla and whether a normal AUS precludes heavy nodal involvement.

Methods: A three-year cohort of screen-detected invasive cancers in one region were analysed for final axillary nodal status compared to pre-operative AUS findings.

Results: 135 of 659 (20%) of patients had a final diagnosis of a malignant axilla. 31 (23%) of these were diagnosed by preoperative needling and 39% of these patients had four or more nodes involved.

The proportion of patients who had malignant sentinel nodes (MSN) who had undergone US-guided needling not diagnosing malignancy, or normal AUS was similar at 21% and 17% respectively.

Of those with MSN, 21 of the 108 (19%) had more than 4 nodes involved.

Conclusion: In our screening unit the practice of preoperative AUS ± needling provides a malignant diagnosis in one fifth of involved axillae and two-fifths of those have a substantial nodal burden. In those where AUS ± needling does not demonstrate disease, approximately one fifth have a malignant axilla and one fifth of those have four or more positive nodes.

Counselling of an individual patient remains complex and a negative AUS, though prognostically hopeful, does not preclude substantial nodal involvement.

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P161. The role of neo-adjuvant chemotherapy in the pre-operatively positive axilla

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Introduction: All patients with breast cancer should have axillary ultrasound +/- fine needle aspiration [FNA] as part of their pre-operative assessment. Node positive patients then proceed to axillary clearance or neo-adjuvant chemotherapy. Management following this is not standardised due to lack of current evidence, the options being a repeat sentinel node biopsy [SNB] or full axillary clearance.

Method: A retrospective review of 3 years of pre-operative node positive patients in a single unit from January 2009 - November 2012. All patients were FNA positive and proceeded to surgery. This was a combined cohort of patients undergoing SNB and clearance, or axillary clearance without SNB. The control group for comparison received no neo-adjuvant therapy. Patients undergoing neo-adjuvant chemotherapy had a pathology review of all nodes, looking for evidence of previous cancer such as capsular fibrosis, sinus histiocytosis and fibrosis.

Results: There were 133 patients included in the study. 38 patients had neoadjuvant chemotherapy. The patients ranged in age from 27-95. Baseline characteristics were similar. The median number of positive nodes in the non treatment group was 6. In the neoadjuvant group this was 1. Reviewing signs of previous positivity in the neoadjuvant group showed a similar pre-chemotherapy nodal yield median of 7.

Conclusions: It appears from our cohort that the 2 groups were initially similar and the effect of chemotherapy is dramatic in reducing axillary disease. Patients that have greater than 4 nodes positive will require post-mastectomy radiotherapy and staging commonly. Use of neoadjuvant therapy may benefit these patients and alter future management options.

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P162. A Multi-centre prospective phase - 2 surgical study evaluating which HRQL domains discriminate the effects of types of immediate Latissimus dorsi (LD) breast reconstruction (BRR)

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Introduction: There is a need to determine surgically discriminatory Patient Reported Outcome Measures following types of BRR, in the context of adjuvant treatments. Our aim was to evaluate the effect sizes over 3 years of all HRQL domains between types LD BRRs (LD-implant and autologous LD) as hypothesis-generating HRQL outcomes for future trials.

Methods: A multicentre prospective cohort study evaluated HRQL domains: EORTC QLQ-C30, BR-23, and FACT-B, pre-operatively (baseline) up to 36 months post-operatively on 120 patients. The effect sizes (mean difference divided by the standard deviation) of all HRQL domains were assessed. Comparisons between LDI and ALD used baseline controls in a regression analysis. Effect sizes will also be adjusted for previously defined variables[1].

Results: Over 3 years, most HRQL domains showed small effect size (< 0.2), except future perspective, emotional functioning, anxiety and body image, which demonstrated moderate effects. Physical functioning retained an effect size of 0.31, with small effects in breast and arm symptoms. Minimal differences in HRQL occur between LDI and ALD. The hair loss and diarrhoea effects likely reflect increased radiotherapy and chemotherapy in ALD compared to LDI groups. Surprisingly, ALD patients scored higher (0.58) for the sexual functioning scale than LDI, although it is possible that this has occurred by chance.

Discussion: The effect of improved sexual functioning at 3 years after ALD should be adjusted for chemotherapy with its long-term effects[1]. However, a persistent effect may indicate greater aesthetic satisfaction after autologous BRR[2].

1. BJS 2013, 100(2): 240−51.
2. PRS 2009, 124(1): 1−8.

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P163. Comorbidity as a factor in failure to operate for breast cancer in older patients

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Background: Deprivation, ethnicity and older age are associated with the late presentation of breast cancer but there is concern that older women may be denied surgical treatment on the grounds of age alone. Comorbidity may be a confounding factor and this can be estimated using Hospital Episode Statistics (HES) for England.

Methods: Individual patient data for 2007 including HES were collated. The likelihood of presenting with early breast cancer was correlated to the Nottingham Prognostic Index (NPI) Excellent and Good Prognostic Groups (EPG/GPG) and tumours $\leq$20cm. The likelihood of late presentation was correlated to the NPI Poor Prognostic Group (PPG) and not receiving surgery.

The four criteria were analysed against age by decade, deprivation quintile, Black/Asian ethnicity (BAE), screen-detection (SD) and the Charlson Comorbidity Index.

Results: EPG/GPG tumours or tumours $\leq$ 20mm were more likely in the SD and more affluent cohorts. Compared with women aged 50-59,

those aged 0-39 or of BAE were less likely to present with EPG/GPG tumours. Patients aged $\geq$ 70 or of BAE were less likely to present with tumours $\leq$ 20mm and those of BAE were more likely to present as PPG tumours.

For those aged over 70 or with a Charlson score of $\geq$ 2 there was a greater likelihood of not receiving surgery.

Conclusion: Patients at the extremes of age, deprived patients and certain ethnic groups may present with more advanced tumours. Failure to operate for breast cancer may be related to comorbidity as well as older age.

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P164. Evaluation of local practice with regards to the management of indeterminate (B3/B4) vacuum assisted breast biopsy lesions in relation to new clinical guidelines

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Background: The advent of the breast screening programme has increased the detection rate of subclinical or inpalpable breast lesions and with this comes the increased diagnosis of lesions with uncertain malignant potential (B3/B4). In January 2012 the London Quality Assurance Reference Centre (QARC) outlined the appropriate management of indeterminate breast lesions found on core biopsy with the aim of providing best practice options for the management of indeterminate breast abnormalities based on current expert opinion.

Objective: Evaluate local management of B3/B4 lesions obtained by vacuum assisted core biopsy (VACB) to establish whether guidelines have been followed and identify reasons for when they have not.

Method/data collection

- All patients who underwent VACB at the Royal Marsden in Sutton and Fulham between May 2010 and January 2012.
- Analysis of histopathological grading and histology details.
- Determine if an MDT decision was made and identify histology for those surgically excised.
- Comparison of results with new QARC guidelines.

Results

- 203 Patients underwent VACB.
- 97.5% of patients underwent MDT discussion.
- 30 (14.7%) biopsies received a B3 grading, 3 (1.5%) biopsies received a B4 grading.
- Four B3 and two B4 biopsies underwent surgical excision.
- Five (15.2%) indeterminate biopsies (B3/B4) did not follow the recommended QARC guidelines.

Conclusion: We currently follow the QARC guidelines in 84.8% of cases. We look to implement changes and re-evaluate in 6 months.

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P165. Comparison between adjuvant! Online and PREDICT

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Introduction: Adjuvant! Online and PREDICT are online tools that clinicians often use as a reference for the survival risks and benefits of non-surgical treatments. Some validation studies were done to compare the predictivity of these tools using real patient cases. However, the underlying methodologies and assumptions behind these tools are often overlooked. In this study, dataset, methodology, coverage, assumptions, and concerns will be compared between the two tools. This will help clinicians and researchers to interpret the results from the tools.

Methods: A review was done on Adjuvant! Online and PREDICT.

Results: The base index of Adjuvant! Online is from the US SEER (Surveillance, Epidemiology, End-Results) registry data and the treatment effects are based on clinical trials. The limitation of using trial data is that trial results are very much dependent on the trial designs. Meta-analysis of trial results should consider measurement errors within each trial. In PREDICT, the relative risks or benefits were calculated from the Eastern cancer registry data. The limitation of using local registry data is the selection error. For example a patient who has had RT probably has a better health in general.

Conclusions: The two tools answer slightly different questions. It is essential for clinicians and researchers to understand the differences between the tools before they interpret or compare the prediction results.

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P166. Is there a role for CA15-3 in routine breast cancer follow up? A review of a cohort of patients over four years

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Introduction: Both the American Society of Clinical Oncology and European Society of Medical Oncology have published guidelines for breast cancer follow up stating there is no evidence for the use of the marker CA15-3 in asymptomatic patients. However this institution still measures CA15-3 in routine follow up. This study aims to see if measuring CA15-3 confers any benefit in identifying disease recurrence or metastases.

Methods: All patients diagnosed with breast cancer in 2008 were identified from pathology records. Information was collected on initial diagnosis and management. CA15-3 levels measured during follow up until August 2012 were recorded, plus staging investigations and details of metastases and disease recurrence. In the group with abnormal CA15-3 each case was reviewed to see if the abnormality triggered staging investigations. Clinic letters were reviewed to identify if these patients were symptomatic of disease recurrence/metastases.

Results: 230 patients were diagnosed with breast cancer at this institution during 2008. 39 had abnormal tumour markers during follow up. Of these patients 82.1% had an initial diagnosis of Grade II or III invasive carcinoma (2.6% unknown); 53.8% were node positive (15.4% unknown). 20.5% of this group developed recurrence, 41% bone metastases and 41% visceral metastases. 61.5% underwent staging investigations in response to the raised marker, however only 41% were symptomatic of disease recurrence/metastases at this time.

Conclusions: We believe there is a role for measuring CA15-3 in asymptomatic patients, however only in those with Grade II or above disease or positive lymph nodes at diagnosis.

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P167. Is there a role for routine chest X-ray in diagnosing metastatic disease in invasive breast cancer patients?

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Introduction: Metastatic work-up for patients with newly diagnosed breast cancer is variable across breast units, especially for early disease. However, in the absence of symptomatic disease, the usefulness of this routine diagnostic work-up is not evidence-based. Chest X-ray (CXR) and Liver Function Tests are commonly used in patients with newly diagnosed breast cancer as a part of baseline staging. We carried out this study to evaluate the usefulness of performing routine chest X- rays for detection of metastases in all patients with invasive breast cancer.

Study design: Retrospective review of all patients diagnosed with invasive breast cancer under the care of one breast surgeon between 2007

and 2011. Patient details were obtained from the theatre lists. Results of histology obtained using lab centre browser and CXR reports using radiology system. We excluded patients who underwent surgical procedures for benign diseases and DCIS.

Results: 367 patients had operations for invasive breast cancer and CXR was performed in 357/367(97.3%) patients with invasive breast cancer. Other 10 patients did not require a CXR as they had pre-operative CT scans due to advanced disease at diagnosis.

4/357(1.1%) patients showed lesions on CXR and subsequently required CT scans which did not show any evidence of lung metastasis.

Conclusion: Routine CXR in early breast cancer is not recommended due to the extremely low detection rate of distant metastases.

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P168. Meta-analysis: High intensity focussed ultrasound ablation in breast cancer

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Introduction: There has been a progression of treating breast cancer from radical mastectomy to breast conserving surgery. High intensity focused ultrasound (HIFU) is a non-invasive technique that enables the creation of localised ablative lesions deep within tissue, without damaging skin or intervening structures. To evaluate the potential of HIFU to treat breast cancer our aim was to find out: What proportion of patients with breast cancer treated with HIFU is there complete ablation in?

Methods: A systematic search of the Pubmed, Cochrane and Embase databases from October 1992 to October 2012 was conducted and relevant studies analysed. In order to ensure complete ablation had been achieved, we only included studies which conducted histopathological analysis of surgical excisions following HIFU ablation.

Results: Five clinical studies were identified with a cumulative sample size of 92 patients. Four of five studies utilised MRI guidance, while one used ultrasound guidance. Complete ablation was achieved in 50.0% of cases (95% CI: 39.4-60.6%), while complications (skin burns or pain) were observed in 15.2% of cases (95% CI: 8.6-24.2%). Using the chi-squared test to compare this efficacy profile to existing national surgical efficacy data for complete removal of breast cancer, current HIFU is significantly less effective (p value 0.01).

Conclusions: Further research is warranted to refine this novel treatment modality before it can be compared to existing surgical treatment. Multi-centre randomised controlled trials would help to evaluate this.

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P169. Pain following mastectomy and immediate breast reconstruction: An audit

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Introduction: The National Mastectomy and Breast Reconstruction audit has recommended that less than 5% should experience severe pain postoperatively. The 2010 audit reported that 6.2% of patients who underwent mastectomy alone experienced severe pain in the first 24 hours. This went up to 16.5% and 20.1% in the immediate reconstruction and delayed reconstruction categories respectively. Similarly in the first week severe pain levels were 5.2%, 11.4% and 9.4% respectively. The main objective of this study was to ascertain the levels of pain experienced by our patients following mastectomy and breast reconstruction.

Methods: Prospectively collected data from 27 patients during the period April 2011 to July 2012 in our ongoing project was used in the analysis. The numeric rating scale was used to assess pain on the first postoperative day, at 1 week and 1 year.

Results: The median age of the patients was 50 years (range 38 − 71). Immediate reconstructions during the period accounted for 85% of the cases. Fifteen patients had a contra lateral surgery for symmetrisation. Severe pain was experienced by 11.1% of patients on the first postoperative day but this fell to 3.7% in the first week and at year 1.

Conclusion: The levels of pain following mastectomy/reconstruction though higher than the recommended levels in our series were better than the national average. The target of under 5% was achieved at one week. The inherent complexity of the surgery usually involving both sides could account for the high levels of immediate postoperative pain. Other modalities of pain control such as epidural and intercostal block may provide better analgesia in these patients.

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P170. Our initial experience of oncoplastic breast conservation surgery

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Our institution has recently implemented oncoplastic techniques for breast conservation. Our aims were to provide patients with breast conservation and cosmesis and to decrease the rate of mastectomy. Patients were chosen prospectively. The procedures were indicated in those who would have more than 10-15% of the breast volume excised at the time of the surgical intervention. They were also indicated in tumors in unfavorable sites of the breast, specifically the inner quadrants. The surgical procedures which were applied were primarily volume displacement techniques. These included horizontal rotational flaps for inner quadrant tumours; vertical rotational flaps for lower quadrant tumors; the shutter technique and B-plasty for upper outer quadrant tumors; the Grisotti technique for central tumours; and intramammary flaps for small tumours. They were not performed in patients requiring a mastectomy. These latter patients had multicentric disease and widespread microcalcifications representing diffuse DCIS.A total of 22 patients were operated with the new surgical methods from September 2011 to November 2012.These included 8 shutter techniques; 6 vertical rotational flaps; 4 horizontal rotational flaps; 2 intramammary flaps; 1 grissoti flap and 1 B-plasty. The age of the patients ranged from 44 to 77 years with a mean of 52 years. The histology of the tumours were 14 infiltrating ductal carcinomas; 3 infiltrating lobular carcinomas and 3 patients with DCIS. 3 tumors were grade I; 11 were grade II; and 3 were grade III. Only 2 tumours were ER negative. The size of the tumours were 10 mm to 75 mm with a mean of 32 mm.14 had negative margins ranging from 1 mm to 15 mm (5.56mm). 7 patients had positive margins which were defined as the tumour involving the margins. Out of these patients, 5 underwent completion mastectomies and 2 underwent a wider excision with no residual disease in the final histology. Out of the patients who had positive margins, none had lymphovascular invasion. The type of cancer in these patients were 3 infiltrating ductal carcinomas; 2 infiltrating lobular carcinomas; and 2 cases of DCIS. Only 2 patients had delayed wound healing. In cases of infiltrating lobular carcinomas, rotational flaps should be considered due to unfavorable positions rather than the extent and multifocality. Clips must be placed not only in the cavity but along approximated margins. Oncoplastic techniques allow wider excisions of tumours.

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P171. The routine use of group and save in breast surgery – an unnecessary cost!

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Introduction: Whilst the maximum surgical blood order schedule (MSBOS) recommends cross match of 2-6 units for elective breast reconstruction, there are no set guidelines for the use of group and save (G&S) in routine breast surgery. Despite this, blood transfusion in breast surgery is rarely required.

This audit examined the validity and cost implications of routine G&S at our institution.

Methods: A one-month retrospective audit of breast cancer operations was carried out. Data collected included; type of surgery, whether G&S sample was taken at pre-operative assessment, validity of the G&S sample on the day of surgery (maximum 7 days) and whether a transfusion was required. The estimated cost of a G&S was £2.48 and that of freezing a sample (allowing samples to be kept for 28 days) was £0.80.

Results: Of 56 procedures analysed, 64% (36/56) had a pre-operative G&S. Only 29% (16/56) were valid on the day of surgery (>7 days old).

In 21% (12/56) a G&S specimen was deemed necessary (mastectomy +/- reconstruction), but 75% (9/12) were invalid on the day of surgery and had to be repeated.

1 (2%) patient required a transfusion in the post-operative period (a mastectomy and immediate reconstruction).

For this cohort, the overall cost of G&S was £111.60. Freezing only the necessary samples would have resulted in an average monthly cost saving of £72.24, equivalent to an annual saving of £866.88.

Conclusion: Judicious use of sample freezing and G&S can reduce the burden on laboratory resources and lead to a modest yet significant cost saving.

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P172. Peri-areolar incision revisited

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Aim: In breast surgery, the challenge of maintaining good cosmesis is increasing to meet the demands and expectations of patients. In breast cancer surgery this must be balanced against good clearance with safe and adequate margins. For excision of benign lesions obvious deforming scars are unacceptable. In breast conserving surgery for tumours, an inappropriately placed incision produces deformity and impacts on future reconstructive options. This study evaluates the outcome of using a peri-areolar incision for wide local excisions, which at times is technically demanding especially in screen detected cancers but has a definite role in standard breast conserving surgery.

Methods: From November 2011 to October 2012, data was collected prospectively of patients who underwent wide local excisions using peri-areolar incisions. Demographic data, operation details, specimen pathology results and further operations were recorded.

Results: In this 12 month period, 66 patients had wide local excisions performed by a single surgeon which included 28 screen detected cancers. In total 3 patients (4.5%) required further surgery of which 1 (3.6%) was screen detected. Out of the 66 wide local excisions, 40 were performed using peri-areolar incision of which only one (2.5%) required further re-excision. All wide local excisions had four margin cavity shavings performed during the index procedure, which helped in decreasing the re-operation rate.

Conclusion: Peri-areolar incision for standard breast conserving surgery provides a good alternative with low re-excision rates and has minimal impact on the choice of incisions if future reconstructive procedures are required.

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P173. One year audit of surgical outcome of B3 biopsies on Screening/ Symptomatic mammograms

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Introduction: The optimum management of patients whose needle core biopsy (NCB) results are of "uncertain malignant potential" (B3) is unclear. This study correlates B3 NCB findings with excision histology to determine associated rates of malignancy.

Methods: All NCBs categorized as B3 from July 2011 until July 2012 were identified using pathology database system. B3 lesions included atypical intra-ductal epithelial proliferations (AIDPs), lobular neoplasia, papillary lesions, radial scars, flat epithelial atypia (FEA) and potential phyllodes tumors. Radiological abnormality identified using BIRAD's classification system for reporting. Histological concordance between NCB and excision specimen was analyzed.

Results: A total of 43 B3 lesions were identified during the study period. The open biopsy rate after a B3 finding was 53% (n = 23). Radiological abnormality was reported as R2 in 2, R3 in 13, R4 in 4 and R5 in 4 patients respectively. The overall rate of malignancy for B3 lesions after excision was 13% (n=3). All three patients had R3 or above abnormality and surgical excision confirmed non- invasive ductal carcinoma in-situ (2 needed re-excision). The pre surgical B3 lesion- included AIDP in one patient and papilloma in 2 patients out of which one had atypia.

Conclusions: Management of lesions in the B3 category must be tailored to the patient and should be taken by multidisciplinary team (MDT). A repeat biopsy or a surgical excision should be undertaken in lesions with a B3 or radiologically R3 or above categorization because of risk of malignancy.

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P174. Auditing compliance with the NICE Clinical Guideline: Quality standard for breast cancer (Aug 2011) at Salford Royal Foundation Trust

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Background: August 2011 saw the release of the NICE Clinical Guideline: Quality standards for breast cancer, which provided guidance on the management of early, locally advanced and advanced breast cancer in adults. These 13 standards are thought to be 'markers of high quality cost-effective care' and aim to encompass the 5 domains of the NHS Outcomes Framework. It was decided to audit the current performance at SRFT against these standards and identify any areas for improvement.

Methods: Breast Unit practice was compared against the NICE Clinical Guideline: Quality standard for breast cancer (Aug 2011 for those patients diagnosed with breast cancer at SRFT between September 2011 and December 2011. Data was collected using the electronic patient records system (iSoft).

Results: The trust achieved 100% compliance in 6 out of 10 key areas. Areas identified for improvement included improving documentation about reconstruction discussions, giving patients written care plans and documenting discussions about adjuvant therapy.

Conclusions: It was concluded that it may be helpful to have a checklist/proforma on iSoft that can be started at the time of a patient's diagnosis

and continually updated at each clinic or inpatient visit to ensure that all aspects of the guidance are covered.

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P175. Cancer survivorship: A 2 year service evaluation of 'Recoup Your Equilibrium'

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Introduction: Patients are well supported during their initial diagnosis, surgery and treatment. Following completion of therapy, low risk patients are discharged from clinical follow up to patient led follow up. As part of the National Cancer Survivorship Initiative increasing emphasis is being placed on strategies for long term assistance.

Methods: Patients finishing their current breast cancer treatment were invited to a workshop entitled 'Recoup Your Equilibrium'. Run by Specialist Breast Care Nurses and in conjunction with support from a dietician and physiotherapist, topics as diverse as post surgical changes, lymphoedema, body image and sexuality were discussed. A booklet was produced providing further written information and support. Questionnaires were sent to patients at the end of each workshop.

Results: 73 patients (40% of those invited) attended during the first 12 months. This was increased to 87 patients (56% of those invited) for the year period ending 2011. Patient satisfaction was high with 93% reporting the group content as excellent or good. 100% of patients found the 'Recoup Your Equilibrium' booklet clear and easy to understand. 100% of patients found the booklet helped them understand what to expect following treatment. 100% of patients found it useful to attend the focus group.

Conclusions: 'Recoup Your Equilibrium' provides ongoing support to breast cancer survivors and achieves high patient satisfaction. This is a useful adjunct in patient care and future directions include follow up patient contact by telephone call and the availability of a life coach.

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P176. An audit of axillary node recurrence in patients undergoing sentinel lymph node biopsy in Altnagelvin Hospital

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Introduction: Minimal surgery, rather than lymph node clearance, should be performed to stage the axilla in patients with early invasive breast cancer and no evidence of lymph node involvement. Sentinel lymph node biopsy (SLNB) is the preferred technique. With widespread adoption of SLNB, NICE has advised that breast units should audit their axillary recurrence rates.

Methods: Consecutive patients undergoing SLNB in Altnagelvin Hospital between April 2007 and October 2009 were identified. Patient demographics, primary breast cancer characteristics and treatment, and patient outcomes were obtained from laboratory, patient centre and oncology databases. Details on presentation and management of the axillary recurrence were obtained from hospital records. Primary end points were axillary relapse rate and time interval between primary breast cancer diagnosis and axillary recurrence.

Results: A total of 318 patients underwent SLNB in this time period. Median number of harvested nodes was 2 (range 1-9). Median age of the cohort was 58 years (range 28-95). After a median follow-up of 53 months (range 38-68), 6 patients (1.89%) developed recurrence in the axilla with associated breast recurrence in one case. One underwent mastectomy and 5 patients had wide local excision. The median interval between primary breast cancer diagnosis and axillary recurrence was 28 months (range 10-50).

Conclusions: The axillary recurrence rate in our series compares favourably with the target axillary recurrence rate of $< 3\%$ defined by the Association of Breast Surgery at BASO guidelines 2009 [(1)].

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P177. Quality improvement project: Protecting at risk arms from breast cancer related lymphoedema

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Introduction: Procedures such as venepuncture and cannulation can precipitate Breast Cancer Related Lymphoedema (BCRL) in patients who have undergone axillary surgery. We noted that procedures were inadvertently being performed on the side of surgery at our hospital, as susceptible patients were not clearly identifiable to staff.

Methods: We conducted an online anonymous staff survey, to measure the scale of the problem. 26.9% of responders reported having seen procedures being performed on at risk arms in non-emergency settings. 83.3% of responders felt an intervention to allow easy identification of at risk arms would be useful.

We created a threefold intervention. Firstly, we created an 'At Risk Arm' alert on the computerised records system. Secondly, we produced a warning sign for each susceptible patient's bed. The signs are displayed above beds, and returned to notes for use if the patient is re-admitted. Thirdly, we informed GPs via discharge summaries of the need to perform procedures on the opposite side to surgery.

Results: We conducted a second staff survey after implementation. 46.2% felt that the new interventions would decrease the chance of patients developing BCRL. 61.5% felt that susceptible patients being more identifiable to staff would decrease the likelihood of procedures being performed on at risk arms.

Conclusion: Our project showed the importance of ensuring axillary surgery patients are identifiable to staff during admission. Further interventions could include wristbands or patient alert cards. This work could be extended to include primary care and outpatient settings.

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P178. Free flaps for whole breast reconstruction: 8 years, 100 cases, evolving trends, increasing acceptance - Tata Memorial Centre, India experience

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Introduction: The gold standard for whole breast reconstruction, free diep, mstram flaps in India has been stuck in the muddy troika of lack of expertise available, under-utilisation if expertise available, poor awareness and acceptability amongst patients. All these factors feed on each other. We have achieved breakthrough results, awareness and acceptability with 100 plus cases over the past 8 years

Methods: 104 cases of whole breast reconstruction (WBR) were done from April 2004 to Nov 2012 with free flaps, of these 70 cases were operated in last 2 years. 1 case was bilateral reconstruction, rest unilateral. 10

Tram 45ms tram 45 dieps 3 alt 1 gracilis were done. No couplers were used. Internal mammary vessels were used in all but 5 cases. Cephalic vein and superficial venous systems were used for superdrainage when required. Monitoring was by needle prick and observation of bleed only hourly for 24 hrs and twice a day for next 4 days

Results: 5 cases required exploration for thrombosis, 1 arterial, 1 salvaged, 4 venous, 2 salvaged. Last 50 cases no exploration and no flap loss. Overall flap survival rate 98%. 3 cases developed hernia at donor site, None required any intervention. Patient satisfaction was exceptionally high.

Conclusions: Early success and positive feedback from patients leads to increased referral for WBR with free flaps. Microvascular expertise and coordination with breast surgeon is the key. Success possible without couplers and advanced monitoring devices. Cephalic vein is a precious resource.

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P180. Should bilateral breast reduction be performed in the NHS?

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Aim: Is breast reduction a cosmetic procedure? If so should it be allowed in the NHS especially during the current economic situation? Is it is a good technique to teach the juniors? – It has four fold benefits - as it not only helps the symptomatic large breast patients but also forms the crucial learning tool for the therapeutic mammoplasty technique, reduction pattern mastectomy with implant based reconstruction and symmetry surgery of the opposite breast.

Methods: All cases of breast reduction/ reduction pattern mastectomy/ therapeutic mammoplasty and symmetry surgery performed under one consultant over the last 7 years in the ABM trust were analysed and the outcome noted. Survey by the breast care nurses about the results of surgery and the treatment satisfaction were found.

Results: 80 breast reduction procedures were performed during the last 6 years. One patient had wound problems due to breakdown of the trifurcation wound with no partial or total nipple losses. About 10% had implants removed following implant based reconstructions of reduction pattern mastectomy of which 4% had their implants re-inserted. Good treatment satisfaction results of the patients as per the survey results.

Conclusion: Bilateral breast reduction should be performed in the NHS within the criteria of local assembly guidelines to help and relieve the symptoms of the patients which adds a better quality of life. It forms the base for the therapeutic mammoplasty technique, reduction pattern mastectomy and symmetry surgery. We recommend that this technique should be used as a good teaching tool for the juniors to learn.

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P181. Invasive Lobular Carcinoma (ILC) of breast presenting as skin lesion in axilla

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Background: Skin lesion in axilla could be an ILC in ectopic breast tissue (EBT). The aim is to present two such rare cases and review the literature.

Methods: We obtained cases from two different hospitals and Pubmed.

Results: Two women aged 51 and 33 years, with skin lesion in axilla, had excisions which were incidentally reported as ILC in EBT. Both had normal mammograms and staging CT scans. The first lady's MRI showed enhancement in the breast which on US guided cores was benign. She had excision of the axillary scar and US marked wide local excision (WLE) of lesion seen on MRI and sentinel node biopsy. No residual cancer was seen and axillary nodes were negative. The second lady had re-excision of scar and axillary node clearance showing residual triple negative cancer and nodes positive. Both had radiotherapy, the first lady had to breast and axilla and second had to supraclavicular fossa as well. The first lady had endocrine therapy and second had chemotherapy.

Conclusions: With skin lesion in axilla, one should be aware of carcinoma of EBT, accounting for 0.3-0.6% of all breast cancers. Diagnosis relies on histology from excision. WLE and lymph node staging, followed by adjuvant therapies, based on staging is the best treatment option. Radiotherapy is given to the axilla, which is the primary site of the cancer. Ipsilateral breast irradiation is given if imaging shows primary tumour within the breast. Prognosis is thought be poor because of delayed diagnosis and frequent metastases to lymph nodes.

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P182. Early hospital discharge for mastectomy patients – is it a shared decision?

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Introduction: Barriers for compliance with treatment decisions are influenced by patients' desired expectations. One of the fundamental criteria for patient satisfaction is the mutually agreed date for hospital discharge. The aim of this study is to determine the level of shared decision making between mastectomy patients and the multidisciplinary team for early hospital discharge.

Methods: A prospective study based on a brief questionnaire (13 questions) was conducted (March 2012 – September 2012) for mastectomy patients. An information leaflet about safe hospital discharge (drain care, analgesia, daily activities, emergency contacts) provided in the pre-operative assessment clinic. The questionnaire was completed in the first post-operative clinic to assess patients' involvement in treatment plans and overall satisfaction.

Results: A total of 14 patients completed the questionnaire for the study. The main source for medical information was provided by consultant breast surgeons and specialist nurses (n=14). There was no information from ward doctors or nurses. Patients were more likely to receive information pre-operatively (n = 8, 58%) than throughout the treatment journey (n = 6, 42%). Although all patients were pain free and had a family member at home, a considerable proportion (n = 6, 42%) preferred to stay beyond (1- 4 days) the actual discharge date. (Table 1) All patients were very satisfied with the overall care provided throughout the treatment journey.

Conclusion: Early hospital discharge is achieved with coherent patient education to tackle individual concerns and expectations in all settings including hospital wards. Overall, patient satisfaction correlates with shared

Table 1
Mastectomy Patients' Evaluation of Shared Decision Making

	Yes – Definitely	Yes – Some Extent	No
Overall Decision Making	12 (86%)	2 (14%)	0
Treatment Information	12 (86%)	2 (14%)	0
Ready for Discharge	4 (28%)	2 (14%)	8 (58%)
Shared Discharge Decision	7 (50%)	3 (21%)	4 (29%)

decisions throughout the treatment journey and not related to discharge date only.

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P183. Cardiac safety profile of neo adjuvant trastuzumab with Anthracycline for early and locally advanced breast cancer

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Introduction: The license of trastuzumab has been extended to permit concurrent use with an anthracycline in the neo adjuvant setting. Three large phase 3 trials have demonstrated that this strategy results in high clinical and pathological complete response (cCR and pCR) rates which in turn are associated with better survival. [1, 2, 3] However, this approach hasn't been widely adopted in the UK due primarily to ongoing concern regarding cardiac safety of concurrent anthracycline and trastusumab despite a good cardiac safety profile in the trials. Safety data with the commonly used FEC 100 regimen is also limited.

Method: Her-2 positive breast cancer patients who were judged to be candidates for neoadjuvant chemotherapy were offered Docetaxel- 100 x 3 cycles followed by FEC-100 x 3 cycles. Trastuzumab was administered 3 weekly, starting concurrently at 8mg/kg with the first dose of docetaxel and 6mg/kg thereafter. Echocardiogram was performed at baseline and repeated at 3 monthly intervals.

Result: We have so far treated 16 cases. The median age of the population was 47.5 years. (27-70). At the time of analysis 11 cases had undergone surgery out of which 6 (54%) had pCR, four with no residual neoplasia- ypT0N0. Two had residual DCIS- ypT0/isN0, but no evidence of invasive cancer. 6 out of 11 had mastectomy, 3 (50%) of which had pCR. (Table 2). Chemotherapy and trastuzumab was administered to all 16 cases without any deterioration of cardiac function. Table 1 summarises the LVEFs.

Conclusion: This small ongoing series demonstrates that Trastuzumab and 3 cycles of FEC100 can be safely administered in selected group of patients without any deterioration of cardiac function. The pCR rate is consistent with larger studies.

Table 1
Cardiac function

No:	Age	LVEF Baseline	LVEF-1	LVEF-2	LVEF-3
1	46	65%	67%	64%	67%
2	28	63%	68%	65%	60%
3	58	60%	61%	NA	NA
4	27	64%	58%	54%	NA
5	50	55%	55%	55%	NA
6	50	59%	59%	64%	61%
7	54	68%	63%	64%	NA
8	38	60%	60%	77%	NA
9	52	60%	58%	NA	NA
10	48	60%	69%	NA	NA
11	39	66%	64%	NA	NA
12	48	64%	66%	63%	NA
13	45	65%	60%	59%	NA
14	47	63%	65%	NA	NA
15	30	NA	63%	72%	NA
16	70	65%	66%	63%	NA

Table 2
Tumour characteristics, surgery and postoperative histology

No:	T(mm)	N	Grade	ER	Surgery	Histology
1	25	Neg	3	Neg	WLE and SNB	DCIS
2	26	Neg	3	Neg	Mastectomy	Scattered neoplastic cells in area of 65 mms, VI+,
3	25	Pos	2	Neg	WLEand ANC	High grade DCIS 16mm VI + 1/5 N +
4	70	Pos	3	Pos	Mastectomy + ANC	110mm grade3 NST 2/9 N +
5	16	Pos	3	Neg	Mastectomy	0.6mm residual cancer
6	24	Neg	3	Neg	WLE + SNB	pCR
7	57	Pos	2	Pos	WLE	16mm Grade 1 NST
8	MF	Pos	3	Pos	Mastectomy +ANC	pCR
9	MF	Neg	3	Neg	Mastectomy	pCR
10	50	Pos	3	Pos	WLE +ANC	10 mm Grade 3 NST with DCIS
11	55	Pos	2	Pos	Mastectomy	pCR

VI= vascular invasion; N= node, Neg=negative; Pos= positive; NA = Not Available

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P184. An audit of wide local excision breast surgery

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Background: The key aims in providing surgery to individuals with breast cancer are to remove sufficient tissue to prevent the need for further surgery and to retain as much non-affected tissue as possible in order to maintain optimal cosmetic outcome. Therefore, determining the optimal radial resection margin during wide local excision (WLE) surgery is a priority so that rate of recurrence is minimised without compromising aesthetic result. There is no definitive agreement in the literature regarding the optimal tumour-free tissue margin. In addition, there are currently no NICE guidelines regarding specific target excision margins during WLE. The generally accepted margin is 5mm.

Purpose: To describe the provision of WLE surgery at Weston General Hospital, to record the rate of re-excision at this hospital and to review excision margin size in these patients.

Methods: Retrospective investigation of women with malignant breast cancer who underwent WLE at Weston General Hospital between December 2010 and January 2012 using data from pathology reports.

Results: 80% of tumours were fully excised at the first operation. Those patients who required re-excision had a smaller radial margin at initial operation than those who didn't need repeat surgery. However, this difference was not significant (p=0.103). 33% of women in the study did not undergo re-excision despite having a margin of <5mm.

Conclusion: Further controlled trials are needed to elicit optimum resection margins in WLE surgery. There may be ethical and practical contraindications to carrying out this research. Currently, the decision to re-excise is dependent on clinical judgement.

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P185. 23hr model for breast cancer patients – Development of the BCN service and patient pathway

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Sandwell and West Birmingham Hospitals NHS Trust have been the lead in developing day case/23hr inpatient stay pathway for non reconstructive breast surgery over the past 7yrs.

2011 National finalists in Nursing Times awards

2012 National Winners of Workforce Efficiency Award in Annual Health Service Journal awards.

There has been a wealth of presentations and posters raising the profile of the development of this service but have focused on the medical model.

This poster focuses on the impact this vital developing practice has on the role of the BCN, their workload and more importantly how this has helped to streamline the patient pathway and reduce their hospital stay.

It describes the changes to our service and our practices that enabled us to achieve our goal of day case / 23hr stay for our patient undergoing non-reconstructive surgery.

Key areas for change within the BCN service were within pre-admission clinic and restructuring the discharge process Changing the way we support our patients has not resulted in any increased workload, merely moved the focus. A more comprehensive assessment earlier in the pathway reduces the workload overall and allows more holistic discussions and support for patients.

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P187. Early Experience of consenting patients to donate to a breast cancer tissue bank

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Introduction: Tissue banking of breast cancer samples is a valuable resource in facilitating important scientific and translational research and exploring new therapeutic strategies. Little is known about patients' attitudes to consent for banking as the facilities have been confined to a small number of centres.

Methods: Following local REC approval; reference 09/H1306/108, we opened our tissue bank as one of 4 national centres in February 2010 and commenced approaching patients at our breast clinic.

Results: Over a two and a half year period 966 patients who were planned for breast surgery at our centre were approached. 892 consented to tissue banking and 873 to both tissue and blood. 92% patients advised they were happy to donate. Asian patients were less likely to consent while younger patients did not like to donate blood. All male patients consented to tissue and blood storage.

Conclusions: Early experience was encouraging, patients overall were very enthusiastic and willing to assist. More research is needed to understand the barriers in preventing ethnic minorities to donate and in young people for blood samples.

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P188. The NHS breast screening programme: How to improve the service from a customer's perspective

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Introduction: Although the NHS Breast Screening Programme has been a service provided since 1988, it is important what is offered is what users want. Thus it is necessary we understand patients' perceptions of how the service can be improved. Are we providing what is wanted in a breast screening programme?

Methods: Preliminary interviews took place with 6 women who had attended screening to identify salient points and to form the basis of a questionnaire. This questionnaire was used on a sample (n=25) of women and the results analyzed.

Results:

- 60% did not mind where they were screened (hospital/mobile)
- 48% would prefer a choice of location
- 20% would like evening/weekend appointments
- 8% preference for appointment the same month every 3 years
- a fixed appointment was preferred
- 44% were happy to leave their clothes in the changing cubicle while being screened
- main disadvantage was pain and cold feel of the machine
- main 'like' was service efficiency
- 52% thought women did not attend due to ignorance and fear
- Suggest a comments box

Conclusion

- Mobility ramp needed for mobile units – stairs near impossible for some
- Provide a choice of venues e.g. hospital and mobile unit
- Offer some evening and week-end appointments
- Ancillary staff to go on a communications study day
- Use a comments box
- Have information on screening in non-threatening places e.g. chemists

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P189. Family history: Breast cancer risk evaluation tools

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Introduction: Cancer risk assessment is a calculation of an individual's risk based on their family history. We aimed to compare the outcomes from 2 different risk assessment tools (Tyrer-Cuzick v Claus) when predicting a woman's lifetime risk of breast cancer. This would illustrate the strengths and limitations of both risk models when compared. We used as our standards: NICE Clinical Guideline 41: Familial Breast Cancer (October 2006)

Consent and Confidentiality in Clinical Genetic Practice: guidance on genetic testing and sharing genetic information (Joint Committee on Medical Genetics, September 2011)

Method: All patients who were booked to attend for a family history consultation within a six month period of April – October 2012 were audited (n=55). The data collected at the initial consultation was input in to the Tyrer-Cuzick electronic programme and the results then compared to those recorded at patient interview using the Claus Tables.

Results: Of 55 patients: 6 did not attend and 4 case notes were missing (sample n=45). There were 14 (31.1%) notable differences in outcomes; 2 (4.4%) unable to calculate with Claus and 29 (64.4%) producing similar results. 1 out of the 14 had been discharged but the audit had shown a need for annual screening. The remaining 13 received screening/ were discharged appropriately based on the additional information presented at interview.

Conclusion: Claus model alone did not equate to Tyrer-Cuzick but with additional information given at interview, the outcomes matched. Audit to continue for comparison in 6 months.

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P190. Improving the standards of care for patients with secondary breast cancer in Bradford, West Yorkshire

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The provision of structured nursing support to patients with Secondary Breast Cancer is described as inadequate in a cross sectional survey of 276 breast care nurses in the United Kingdom (1). A national coalition taskforce examining service delivery (2) published a framework of standards to improve the support offered to patients living with secondary cancer (3).

An audit of 26 patients attending the oncology department for treatment of metastatic breast cancer was carried out in the form of a questionnaire examining the current provision of physical, psychological, social and financial support.

Whilst patients reported a high level of satisfaction with their oncologist and treatment plan, a need for access to nursing support, written information and financial support was identified.

Improvements made in service provision:

1. Specialist Nurses have re-organised their clinical workload to provide weekly support to the oncology clinic and are present when a diagnosis of metastatic disease is discussed. Offering continuing support and information.
2. Open evenings were held with presentations from Palliative care and Oncology team to raise awareness about how these services enhance and complement treatment through collaborative working partnerships.
3. A Time Out day to the Haven in Leeds enabled patients to share experiences and access complementary therapy treatments.

The response from patients to these developments has been very positive and encouraging.

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