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Abstracts for poster presentation at the Association of Breast Surgery Conference & AGM, 19th & 20th May 2014, ACC Liverpool

P001. Are breast cancer patients being adequately referred to fertility services in the North West, and are these referrals causing delays in chemotherapy?

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Introduction: NICE recommends that all breast cancer patients facing chemotherapy are offered an appointment with a fertility expert to discuss the implications of treatment upon fertility and explore fertility preservation options. However, fertility preservation may be overlooked due to fears of causing a delay in chemotherapy. The aim of this study is to determine whether breast cancer patients in the North West are under-referred to fertility services, and if these referrals were made within sufficient time as to not delay their chemotherapy.

Methods: Female breast cancer patients aged 15-39 referred for fertility preservation at St. Mary's Hospital from 2008-2011 were compared against the incidence of breast cancer of the same cohort within the North West.

The referral pathways of 102 female breast cancer patients to fertility services from 2008-2013 were analysed to determine the number of potential delays in chemotherapy.

Results: Only 10% of breast cancer patients were referred to fertility services, against an expected 46%. In 2013, 33% of breast cancer patients were not referred in a timely manner. The time taken from diagnosis to referral consumed the most number of days within the referral process.

Conclusion: Despite a sufficient window of time available between breast surgery and chemotherapy for most breast cancer patients, there is a significantly low number of referrals, and a high percentage of delays in referrals to fertility services. We therefore recommend the diagnosing breast surgeon offer these referrals as soon as possible and certainly before their last surgery to avoid delays in chemotherapy.

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P002. The use of NSAIDs as analgesia for surgeries upon the breast – A survey of individual surgeon preferences

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Aim: Surgery to the breast is known to cause bruising, but reduction of this needs to be balanced against adequate analgesia. Anecdotally, aesthetic surgeons avoid all non-steroidal anti-inflammatory drugs (NSAIDs) despite there being no studies looking directly at NSAIDs use and complications after breast surgery. Prior to starting a study into the effects of pre-operative NSAIDs (excluding aspirin) on outcomes after breast surgery information was sought about the current usage of NSAIDs.

Methods: All breast and plastic consultant surgeons who perform breast surgery in the South West region were invited to take a questionnaire about their usage of NSAIDs. Results were collected and analysed through the web-based SurveyMonkey.

Results: Of 24 responses, 20 were from those trained in general/breast surgery and four from those trained in plastic surgery. Eleven of the general/breast surgeons regularly performed oncoplastic procedures.

Only three surgeons routinely allowed NSAIDs pre-operatively, 18 did not and three did not know. Comments revealed that NSAIDs were avoided due to the perceived increased bleeding risk. Seventeen surgeons used NSAIDs post-operatively. Seven did not use it post-operatively because of potentially increasing bruising.

Regarding pre-operative use of aspirin, 12 surgeons would stop it, with a range of five days to three weeks and six surgeons did not stop it. Six said it would depend on the individual patient.

Conclusions: Current usage of NSAIDs varies widely between surgeons. There is an underlying belief that pre-operative NSAIDs increase post-operative bleeding despite no documented evidence. This should be further evaluated with a controlled trial.

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P003. Patient-led drain output charting is as accurate as nurse led documentation and may reduce inpatient stay and nursing expense

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Introduction: Post-operative drains are typically removed after they fall below a certain daily output. This requires accurate documentation and continuity of care. Inaccurate or unclear recordings can delay discharge. Our aim was to assess whether patients can accurately document their drain outputs when compared to ward staff to augment drain recordings and facilitate earlier discharge.

Method: We performed a prospective study of 31 patients undergoing 51 Plastic Surgery procedures requiring post-operative drains between September and November 2012. Patients were taught how to measure drains and asked to record daily drain outputs. In parallel to this, nursing staff also collated this data. Both groups were pseudo-blinded.

Results: Our cohort included 31 females, mean age of 46 (18-70) years. On average, there were 2 (1-5) drains per patient, remaining in for 4 (1-8) days. The majority of cases were implant-based breast reconstructions (12/51) and modified mastectomies (8/51). Incomplete patient documentation was highest on day 0-1: 52 (91% of all missing data) most likely due to post-operative pain/ lethargy. Thereafter there was 3 patient data omissions compared with 7 data omissions by the ward. Drain output values differed in 12% of cases, though there was no statistical difference between nurse and patient led drain output documentation (paired t-test, $p<0.005$).

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Conclusion: There was no significant difference between patient and ward drain documentation, and therefore patients can safely document their own drain outputs. This could help identify patients for earlier discharge, reduce in hospital morbidity and expense.

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P004. Applying NICE clinical guideline CG80 in practice

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Introduction: NICE clinical guideline CG80 (2009) is an extensive guideline covering all aspects of treatment and care of patients with early and locally advanced breast cancer. This guideline offers best practice advice on the care of such patients. Early and locally advanced breast cancer comprises the vast majority of breast cancer seen in the Breast Care Unit in our hospital.

Methods: A retrospective review of clinical notes, clinical letters, investigations, Somerset Cancer Register was carried out for 50 consecutive patients who underwent surgery as primary treatment for newly diagnosed early or locally advanced breast cancer from 1st May 2010 onwards. We measured each criterion in the Guideline against 100% and tested our practice against every item including preoperative assessment and counselling, BCN support, surgery/reconstruction, diagnostic and postoperative MDM, adjuvant treatment and follow up. Categorical variables were summarised using frequency counts and percentages.

Results: The results of this study were commendable: overall compliance: 98.79%; 65/66 criteria: ≥94% compliance; 57/66 criteria: 100% compliance. As to criterion <1.14.6> (proforma ref. 1.13.6) there is compliance for the most part of the measure. At the time the patient was given a verbal treatment plan by both the surgeon and the breast care nurse but not a written one. A template has since developed and implemented.

Conclusions: The Breast Care Unit of our hospital is compliant with NICE Guideline CG80 apart from a single criterion <1.6.8> and partial compliance with another criterion <1.14.6>. This was addressed with a number of measures and re-audit was planned.

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P005. Inverted nipple correction: Can it be any simpler?

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Introduction: There are many techniques described for the correction of inverted nipples. These may involve sutures only, areolar dermal flaps or a combination of both. We present a novel, simple and reliable technique that uses a single areolar dermal flap through a single incision in grade 3 nipple inversion. A video clip demonstrating this technique will be presented.

Technique: The nipple base is first marked and a triangle is then drawn at the 6 o' clock point on the areola with its base at the nipple areola junction. The base of the drawn triangle comprises approximately 1/6 of the nipple circumference whereas its height equals the nipple width.

The nipple is then everted and a stay suture is inserted to maintain the eversion.

A skin de-epithelialisation is then performed to the drawn triangle leaving a deep layer of dermis behind. The remaining dermis is raised up until the base of the nipple creating a dermal flap. Division of the fibrous bands and lactiferous ducts using tenotomy scissors is then performed.

Using a suture, the tip of the flap is pulled under the nipple and secured to the dermis at the 12 o'clock position.

The donor site is then closed directly using a horizontal suture, resulting in effective narrowing of the nipple base and therefore, enhancing projection.

Conclusion: This is a simple and effective technique for the correction of permanently inverted nipple. The procedure is normally tolerated well under local anaesthesia. The result at three months will be illustrated.

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P006. An audit to evaluate the effects of in-theatre intra-operative specimen radiology (IOSR) on re-excision rates following breast conserving surgery (BCS).

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Introduction: BCS has become the treatment of choice for 64% of women in England. That 1 in 5 women need more than one operation to clear the breast of cancer became UK national headlines in 2012.

Method: Retrospective analysis of consecutive patients who underwent BCS for early breast cancer before and after the introduction of in-theatre IOSR. Data included re-excision rates, sample weight, histology and surgical technique. IOSR was performed using Bio Vision (Bio Vision Inc) in the operating suite.

Results: The reoperation rates were reduced by 10% but the mean specimen weight remained unchanged. There appears to be no correlation with histological type although the numbers are small. Reoperation rates were reduced equally in patients having either targeted re-excision or utine total cavity re-excision.

		Pre IOSR	Post IOSR	*p*
Cases		86	88	
Mean weight (g)		33.5 (2−111)	28.0 (8−109)	
Histology	Ductal	56	55	
	Lobular	9	3	
	Other	23	30	
Re-excision		28 (33%)	18 (20%)	0.07*
Targeted re-excision		12/37 (32%)	7/39 (18%)	
Routine cavity re-excision		16/50 (32%)	12/49(24%)	

Conclusion: In-theatre IOSR can be utilised to target margins for immediate re-excision and reduces readmissions for margin positivity. There is no increase in the total specimen weight thus avoiding cosmetic sequelae. There is potential for financial savings in theatre, wards, outpatients, pathology and radiology. Re-admission for margin positivity is distressing to the patient and reducing rates should be made a priority for further surgical research.

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P008. Cutting corners − Are we compromising oncological safety for aesthetic concerns: a review of a single institution's 21 year experience?

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Introduction: At the ABS conference in 2012 it was suggested that some institutes are putting aesthetic concerns ahead of oncological safety. We therefore reviewed all oncoplastic breast conservation procedures (OBCP) performed over 21 year period to determine whether we had achieved acceptable rates of local recurrence (LR) and whether post operative radiotherapy (RT) to the breast had been administered.

Method: Prospective data collection of all OBCP performed from 1991 to 2012. Data collected included: type of procedure, years of follow-up, in breast local recurrence, metastatic relapse and whether breast radiotherapy was administered.

Results: See Table 1.

Table 1

	Mean F/U (range)	No EBRT	Local recurrence present (received RT)	Local recurrence rate (excluding 8 no RT within trial)
Miniflap n=182	10.4 (22-1)	25	18 (9)	9.8% (5.5%)
TMamm/Grisotti n = 68	4.2 (11-1)	5	1 (1)	1.4%
Total n = 250	8.7 (22-1)	30 (12%)	19 (10)	7.6 % (4.4%)

Reasons for no RT included 8 as part of a clinical trial, 5 declined, 2 had prior RT, 6 DCIS and 1 had a frozen shoulder.

Discussion: 1 in 5 patients who develop local recurrence followed for 15 years die because of breast cancer. ABS guidance has a standard of <5% LR and a target of <3% at 5 years.

Conclusion: The rates of local recurrence in this single unit with long follow-up and relatively large numbers are well within national standards and it is clear that there is no compromise of oncological safety. The role of the MDT is crucial in offering patients appropriate therapies.

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P009. Retrospective audit of recurrences after 3 years follow up of skin sparing mastectomies in breast cancer patients

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Introduction: Retrospective audit of recurrences after Skin Sparing Mastectomies (SSM) in breast cancer patients in Pinderfields Hospital, Wakefield. We audited cases over the period of 3 years from 31/05/2007 to 31/05/2010 and follow up for minimum 3 years.

Method: We retrospectively looked into all our Skin Sparing Mastectomies and used clinic letters, radiology and pathology reports to gather the information.

Results: A total of 59 SSM were performed on 57 patients with mean follow up of 51 months and maximum follow up of 72 months. Mean age of the patients was 51years.

Distribution of cancers included DCIS - 27, Invasive - 32.

A total of 64 patients had nodal surgery with SNB-34, ANS-14 and ANC-16.

Only 8 patients were found to have positive nodes.

Receptors ER/PR Positive-30, Triple negative-9 and HER 2 Positive-7.

Anterior margins positive in 6 (10.2%) and Posterior Margins Positive in 7 (11.9%).

The following number of patients received hormone therapy; Arimidex - 11, Tamoxifen - 19, Anastrazole - 1, Zoladex - 1 and Herceptin - 6 patients.

Radiotherapy and Chemotherapy were received by 12 and 21 patients respectively.

Our patients had following Stages of the Cancer.

DCIS = 27 (45.8%), T1 N0 M0 = 24 (40.7%), T1 N1 M0 = 3 (5.1%), T2 N0 M0 = 2 (3.4%)

T3 N0 M0 = 1 (1.7%) T3 N2 M0 = 1 (1.7%) T3 N3 M0 = 1 (1.7%)

Recurrence rates in pure DCIS-1/27 (3.7%), Invasive-2/32 (6.3%) and total recurrences 3/59 (5.1%). Mean recurrence time was 31 months

Conclusions: Our results are matching the other published data for recurrences in breast cancer after SSM.

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P010. The Information and decision support needs of older women (>75 yrs) facing treatment choices for breast cancer: A qualitative study

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Introduction: Primary Endocrine Therapy (PET) is a good alternative to surgery for breast cancer in older frailer women with equivalent overall survival rates however rates of local disease control are inferior. Some women may be of borderline suitability for surgery and may be offered a choice of surgery or PET. At present there is little research regarding the decision support needs of older breast cancer patients.

Methods: Semi-structured interviews were undertaken with older women (>75 years) with breast cancer (from 5 UK hospital clinics) offered a choice of PET or surgery at diagnosis. Women's involvement in their treatment decision and support desired for the process were explored. Interviews were recorded, transcribed verbatim and analysed using Framework.

Results: 36 interviews were conducted (75-98 years). All women were satisfied with their treatment choice. A large proportion made the decision before options were discussed in consultations. Most were based on prior experiences and pre-existing knowledge; some of which were inaccurate. For the process, women wanted tailored information from their clinician focusing on treatment effectiveness, risk of recurrence and spread, impact on relatives, and side-effects. Surgery was the treatment of choice in women wanting optimal disease control; those choosing PET felt they were 'too old' for surgery and wanted minimal disruption.

Conclusions: Contrary to prior studies, older women described making active treatment decisions. However, some knowledge was inaccurate. Women primarily wanted information and decision support from their clinicians. But about half wanted a specific tailored information booklet as an adjunct to support the process.

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P011. Accuracy of ultrasound imaging and ultrasound guided biopsy in the detecting axillary lymph node disease in patients with primary breast cancer

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Introduction: Pre-operative ultrasound (US) examination of the axilla and, when indicated, US guided fine needle aspiration (FNA) or core biopsy can be used to assess lymph node status in breast cancer patients. A retrospective audit was performed to compare our results to published data.

Method: A retrospective database of radiological and pathological data was compiled from patients with breast cancer between 1/4/2011 and 31/3/2012. Patients with an US diagnosis of malignant axillary nodes underwent US guided biopsy (FNA or core). US +/- US guided biopsy was compared with final tissue histology from sentinel lymph node biopsy or full axillary dissection. Patients having neo-adjuvant chemotherapy were excluded (n=6).

Results: A total of 218 breast cancer patients were included. US alone reported 166 normal axillae and 52 malignant axillae; sensitivity 58.93%, specificity 88.27%, PPV 63.46%, NPV 86.14%. US +/- US guided lymph node biopsy reported 188 normal axillae and 30 malignant axillae; sensitivity 53.57%, specificity 100.0%, PPV 100% and NPV 86.17%. Furthermore, core biopsies (n = 28) were highly accurate: sensitivity 100%, specificity 100% See Tables 1 and 2.

Conclusions: US is a good tool in the assessment of axilla in breast cancer patients especially when combined with US guided biopsy. In this study, US +

US guided biopsy identified 30 women who can have a primary FAD without the requirement for SLNB. Our US only and US + biopsy sensitivity and specificity results are similar to data reported in the literature (USS only: 48-87% and 55-97%)[1] and (USS guided biopsy: 25-97% and 88-100%)[2].

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Table 1
Ultrasound only. B = benign, M = malignant

	US B	US M	
Tissue B	143	19	162
Tissue M	23	33	56
	166	52	218

Table 2
Ultrasound + ultrasound guided biopsy

	US +/− bio B*	US + bio M	
Tissue B	162	0	162
Tissue M	26	30	56
	188	30	218

(*166 had US B and no biopsy, 22 had US M but benign on biopsy and therefore are included in US +/− bio B).

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P012. Values-based practice in breast surgery − An innovative approach to clinical decision-making

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Introduction: Clinical decision-making in breast surgery may be influenced by the values of many different people: the patient, friends and family, clinicians, society or the Trust. Evidence-based practice enables us to make a clinical decision based on the best available evidence but evidence may be equivocal, not applicable to an individual situation or simply not exist.

Values-based practice (VBP) is a novel means of clinical decision-making that we have introduced to surgery for the first time through a series of seminars and workshops.

Methods: Consultants, trainees, multidisciplinary staff, patients and relatives were invited to the seminar on breast surgery. A series of exercises asked attendees to identify their values in certain situations. The VBP framework was applied to case studies to highlight how we can explore values in our own practice to aid decision-making.

Results: The values identified in the workshop varied significantly, even amongst subgroups (e.g. surgeons), which surprised attendees. Feedback from attendees was universally positive.

Discussion: We often assume we know what is important to our patients: survival; morbidity; aesthetics. However, our seminars have demonstrated that, even within a group of similar individuals, values vary significantly and lead us towards different clinical decisions.

We would like to expand the VBP message from its current regional status to a national one. The ABS 2014 Conference would offer us the opportunity to invite the next generation of breast teams to ask their patients, and each other, 'What is important to you?' - and perhaps to be surprised by the answer.

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P013. Patient satisfaction with cosmetic outcome after wide local excision and excision cavity reconstruction using tissue displacement

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Background: Wide Local Excision (WLE) of small breast cancers offers excellent treatment with breast conservation. However, it could result in unacceptable deformities if no Excision Cavity Reconstruction (ECR) was performed.

Methods: We audited patient satisfaction with WLE and ECR using local tissue displacement performed by one surgeon (Associate Specialist). We asked the patients to mark their satisfaction in a 10-marks score. The 'Mean' of Satisfaction Scores (MSS) was used in our calculations then converted to a 'Percentage' (PMSS) for ease of interpretation. Photographs of patients who accepted photography were included.

Results: A total of 38 patients were enrolled, mean follow up was 15-months. 18 patients (47.5%) scored 10/10 satisfaction, 14 (37%): 9/10, 5 (13%): 8/10 and one patient (2.5%) scored 7/10. PMSS was: overall: 93%, right-sided cancers: 93%, left-sided: 92%, UOQ: 94%, UIQ: 93%, LOQ: 90%, LIQ: 96% and central: 85%. PMSS was 93% with no complications (infection/haematoma) and 87% with complications, 94% with no further surgery and 86% with further surgery, 94% with no skin excision and 80% with skin excision, 91% for patient followed up to 12 months, 94% for 13-24 months and 96% above 24 months. Mean tumour size was 17.4mm for 10/10 satisfaction score, 22.5mm for 9/10 and 24mm for 8/10. Mean follow up was 20 months for 10/10 score, 15 months for 9/10, and 9 months for 8/10.

Conclusion: ECR is easy to do, results in high satisfaction rates and improves cosmetic outcome of WLE. Satisfaction tends to be higher with smaller cancers and increases overtime after surgery.

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P014. Invasive lobular carcinoma of the breast: A retrospective analysis of consecutive cases reviewing preoperative imaging assessment with sonography, digital breast tomosynthesis and MR

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Background: Invasive lobular carcinoma (ILC) of the breast in comparison to invasive ductal carcinoma (IDC) is more likely to be multifocal, and in addition can be more difficult to detect on mammography, often appearing as an architectural distortion.

Digital Breast Tomosynthesis (DBT) was introduced into the symptomatic sector of the breast unit in August 2010. The primary aim of the study was to determine whether this modality had improved the preoperative size assessment of ILC. Secondary aims included reviewing all the imaging modalities, and analysing pathological features in this cohort of patients.

Methods: All patients diagnosed with pure ILC between August 2010 and January 2013 were identified. Patients with a past history of breast surgery were excluded. Imaging findings were reviewed retrospectively. Size on sonography, DBT and MRI were compared with final histology. Patient demographics, clinical findings and pathological features were recorded.

Results: Size assessment was possible in 86.5% of cases imaged with DBT, however concordance with pathological size did not reach statistical significance, possibly due to the small sample size. Two cases were mammographically occult within extremely dense breast tissue. No cases were sonographically occult although size assessment was often underestimated with this modality. MRI size assessment showed good concordance with final pathological size, however, imaging with MRI resulted in a change of management from conservative surgery to mastectomy in 40% of cases. The overall mastectomy rate in this cohort was 58.7%. Secondary aims looking at clinicopathological features confirmed that 92.7% were grade 2 ILC, 94.55% of the tumours were ER positive, 94.55% were PR positive, and in this group only 3.64% over-expressed HER-2. Oncotype DX score was obtained on three patients, and interestingly, the scores of two were low recurrence, however one had a recurrence score of 39, and this tumour was PR negative.

Conclusions: This retrospective review suggests that size assessment of ILC has improved with the Introduction of DBT, which may assist preoperative assessment of this group of patients as breast MRI is not always possible and can result in delay in treatment and as previously stated may lead to a higher rate of mastectomy. The clinicopathological found on this review were consistent with older studies.

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P015. Dissatisfaction with delayed breast reconstruction: Determining the cause

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Introduction: The *National Mastectomy and Breast Reconstruction Audit (NMBRA) 2011*, recommends patient satisfaction monitoring. A survey of Bolton Breast Unit patients demonstrated above national average satisfaction (86%, n=44/70) for immediate breast reconstruction (IBR) but lower satisfaction (44% n=10/28) for delayed breast reconstruction (DBR). We hypothesize our DBR cohort differs to NMBRA as we offer all suitable patients IBR.

Method: Case note review of all DBR patients, September 2006 - March 2011.

Results

(%)	BBU	NMBRA
Delayed reconstructions	28.6	33.8
Implant	16.7	13
LD flap	58.3	27
LD flap & implant	25	25
Free flap	0 (Referred to tertiary centre)	35
Patient characteristics (%)		
ASA $\geq$ III	0	2
BMI ($\geq$30)	21.7	22
Diabetes	0	2
Smoking history	45.8	10
Invasive	86.4	85.3
NPI (mean)	5.1	4.8
Previous radiotherapy	46.4	13.3

Discussion: Patient satisfaction may be lower in units where DBR patients are more likely to have comorbidities such as adjuvant chest wall radiotherapy or smoking history. Our DBR group had low rates of bleeding, infection and explantation. Research suggests better psychological and aesthetic outcomes in IBR (Fischbacher et al. 2002, McCarthy et al. 2005) which supports our findings. Further investigation is required into possible psychological effects on satisfaction in women who initially decline IBR.

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P016. Systematic literature review of breast lobular carcinoma in situ (LCIS) risk of future malignancy and management

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Introduction: In our aim to collate current practices for the management of lobular carcinoma in situ (LCIS) from UK breast surgeons, a systematic review was conducted to identify different management modalities for LCIS and the risk of malignant potential associated with LCIS.

Method: The systematic search used NHS Athens between the dates of 2005 to June 2013, using the key words; lobular neoplasia; LCIS and atypical lobular hyperplasia, identified relevant papers that were then manually selected for inclusion in the literature review based on their relevance, study design and power.

Results: Surveillance is currently the commonest management strategy for LCIS, however initially unilateral mastectomy was the treatment of choice, as it was believed LCIS was a precancerous lesion. Evidence showing that the presence of LCIS conferred an increased risk in both the ipsilateral and contralateral breasts led to surgeons favouring less invasive management. Chemoprevention may be a viable option rather than 'watchful waiting' in some patients.

Recent level 3 evidence has shown that despite not being a local malignant precursor lesion, LCIS does confer an approximately seven-fold increased risk of invasive breast cancer in both breasts.

Conclusion: Evidence in the literature suggests 10-20% of patients identified with LCIS develop breast carcinoma in the 15-25 years after initial diagnosis, raising the question as to whether greater risk reducing approaches such as surgery and chemoprevention are needed rather than surveillance alone. A sense of agreement is required with regards to the recommended guidelines presented to clinicians by the varying different advisory bodies.

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P017. Use of autologous fat grafting for reconstruction post-mastectomy and breast conserving surgery: A systematic review and meta-analysis

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Introduction and aims: There is growing interest in the potential of autologous fat grafting (AFG) for breast reconstruction. However, concerns remain regarding its effectiveness, safety and interference with mammography. The possibility of local growth factors and adipose derived stem cells causing cancer recurrence is also a key concern.

Material and Methods: A protocol was published *a priori*. All studies investigating AFG for women undergoing reconstruction post mastectomy or breast conserving surgery for treatment of breast cancer were considered. We assessed six domains; Oncological, clinical, aesthetic/functional, patient reported, process and radiological. Electronic databases were searched to June 2013; additional grey literature searches were also performed. Two independent reviewers assessed eligibility of articles for inclusion and performed data extraction.

Results: 31 studies were included in this review (3,521 patients). Current studies have a median follow up of 14.8 months, and a high degree of patient and surgeon satisfaction over an average of 1.9 sessions. Fat

necrosis is the commonest complication in 4.4% and the majority were *Clavien-Dindo* Grade 1. Other harms include further radiological investigation (interval mammograms in 11.5%) and the need for biopsy (2.5%) to exclude malignancy. The weighted mean recurrence rate was 4.4% at a median of 18.3 months. Restricting to moderate quality studies focusing on in-situ disease, the recurrence rate was 9.4%, compared with 1.6% in matched controls (p=0.03).

Conclusions: AFG is a potentially useful tool within the armamentarium of those performing breast reconstruction. The need for long-term follow up is underscored by this review. High quality research is required to demonstrate long-term oncological ramifications and to determine the potential for AFG as a total breast reconstruction method.

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P018. Oncoplastic breast reconstruction: Are we adhering to best practice guidelines?

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Introduction and aims: In 2012, The British Associations of Plastic Reconstructive and Aesthetic Surgeons (BAPRAS) and The Association of Breast Surgery (ABS) released best practice guidelines for Oncoplastic Breast Reconstruction.[1] These guidelines stated that in 100% of patients requiring a mastectomy oncoplastic breast surgery should always be discussed.[1] We carried out a retrospective audit in a district general hospital assessing adherence to this guideline.

Methods: Data was collected retrospectively using EP and Galaxy computer systems to access patient letters and histology results. All patients who underwent a mastectomy in 2012 were included. A pro-forma was completed for each patient recording: age, co-morbidities, cancer type, grade, size, MDT treatment decision, type of reconstruction, patient preference and complicating factors.

Results: 240 patients were identified; 2 were excluded due to incomplete data available. A total of 238 patients were analysed using Microsoft Excel.

Overall 61.3% of patients included were considered candidates for reconstruction. By six months after the data collection period 29.4% of all patients were scheduled for or had undergone breast reconstructive surgery. Oncoplastic breast surgery was discussed with at least 74% of those eligible and 47.9% overall.

Conclusion: This audit identifies subgroups of breast cancer patients who underwent reconstructive surgery less frequently and explores a number of factors that influence decision making for oncoplastic breast surgery.

Although better than published data (61%) we should aim for 100% of mastectomy patients to have discussions about oncoplastic breast surgery and provide evidence of this. We have made further recommendations to achieve this.

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P019. False negative touch imprint cytology – Does it matter?

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Introduction: Sentinel node biopsy (SNB) with intra-operative analysis using touch imprint cytology (TIC) is standard practice in our unit. We sought to assess the accuracy of TIC and determine the risk of residual disease following false negative TIC in our patient population.

Method: Data regarding TIC, formal histology and clinico-pathological variables were collected prospectively.

Results: 116 patients, mean age 70 years, underwent SNB and TIC. 77.6% were invasive ductal carcinomas, 25.0% grade 3. Mean tumour size was 20.7mm, with 94.0% oestrogen receptor positive and 90.4% negative for HER2 over-expression.

Mean number of nodes harvested was 2.6. TIC was positive in 8.6% (n=10). On hematoxylin and eosin stain, nodal involvement was found in 20.0% (n=23). False negative rate for TIC 12.1% (n=14), false positive rate 0.9% (n=1). Of the false negatives, 57.1% were macrometastases. The positive predictive value of TIC was 90.0%, negative predictive value 86.8%.

All with nodal involvement and one with false positive TIC (n=24) underwent axillary clearance. 16.7% (n=4) had further nodal involvement. Only one patient with false negative TIC had residual disease - the sentinel node contained a macrometastasis on histology.

Conclusions: TIC remains an acceptable technique with a false negative rate of 12.1% in our unit (6.9% for macrometastases). The risk of finding residual disease after a false negative TIC is small (7.1% in this series). Where histology demonstrated micrometastasis after negative TIC, no patient was found to have further nodal involvement. Where a policy of not clearing the axilla for micrometastases is followed, a false negative result is less likely to alter practice.

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P020. Oncological outcomes, re-operation rates and morbidity in the Omega mammoplasty technique for breast conservation surgery

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Introduction: Surgery for superior and supero-medial quadrants tumour is a challenge from an aesthetic point of view. Omega mammoplasty is a technique in breast conservation surgery to avoid skin puckering and nipple distortion. Our aim was to assess the oncological safety and morbidity with this technique

Methods: Consecutive patients undergoing Omega mammoplasty in Institute Curie, France between January 2001 and December 2011 were identified. Patient demographics, primary tumour characteristics, re-operation rates, recurrences and complication rates were obtained from our records. We used logistic regression analysis to determine potential factors affecting reoperation rates.

Results: 81 patients were reviewed. The median age and mean BMI of patients was 60 and 26.4 respectively. The median histological and radiological size was 23 and 20 mm respectively. 43% of tumours were grade 3 and 29.6% had axillary metastases. Complications including wound abscess or haematomas occurred in 4 patients (4.9%). Clear margins (>1mm) was achieved in 79%, 11 patients required mastectomy, 3 needed re-excision margins and 2 needed completion ANC. Logistic regression analysis revealed that tumour size was a significant factor affecting reoperation rate. Mean follow up time was 3.9 years (range 1-10), local recurrence rate was 1.2% and metastasis was detected in 11% of patients.

Conclusion: Omega mammoplasty is oncologically safe and associated with low morbidity rates for grade 1-3 tumours in superior and supero-medial quadrants of the breast.

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P021. Improving coding of breast reconstruction surgery

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Introduction: Accurate clinical coding of operative procedures is crucial for the allocation of appropriate resources, billing and since this

year, for individual surgeons' outcomes data. The expansion of oncoplastic breast surgery has led to increased complexity, since cancer treatment is combined with breast remodelling, autologous and implant reconstructions in various permutations and combinations. Our District General Hospital has two full time oncoplastic breast surgeons who observed inaccurate coding. This audit set out to assess the size of the problem, institute change to address it and re-audit.

Methods: All reconstructive procedures performed from January 2011 to July 2012 were identified. Operation notes were reviewed by two consultant breast surgeons and correct codes agreed and compared to the codes allocated by Clinical Coding.

Intervention: A meeting was held between surgeons and coders to agree the correct combinations of codes for operations performed. A re-audit was performed between July 2012 and April 2013. Fisher's Exact test was used to calculate one-tailed *p*-values.

Results: During the first audit (18 months), 73 procedures were identified, with full data available for 58. In the re-audit (9 months), 32 procedures were identified, with full data available for 31. See Table 1.

Table 1

Procedure	First Audit *n*	Correct code *n (%)*	Re-audit *n*	Correct code *n (%)*	*p*
Latissimus Dorsi +/− implant	21	9(43)	18	17(94)	0.0006
Implant only	16	12(75)	4	4(100)	0.22
Exchange implant	15	9(60)	4	1(25)	0.15
Others	6	2(33)	5	1(20)	0.57
Total	**58**	**32(55)**	**31**	**23(74)**	**0.06**

Conclusion: This audit demonstrated that coding of oncoplastic procedures was inadequate, but that a simple intervention led to better accuracy, particularly for LD and implant only reconstructions. Further improvement is needed for other procedures.

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P023. The King of Corinth and 15-years of breast referral patterns

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Aims: The aim of this study was to look at the main reasons for GP referral, compare this with similar data obtained from a historical study and to ascertain referral trends to rapid access breast clinic (RABCs).

Method: This was a snap-shot retrospective audit using data on referral patterns to rapid access breast clinics, from 1996/1997 and 2012/2013. The data is based on patients from two hospitals within one Health Board over a one-year period of referral. Only 'new' patients were involved in the study; any re-referrals or follow-ups were excluded. The information recorded from the clinic letters included the GPs reason for referral, the diagnosis made in clinic plus the patient's age.

Results: In both 1997 and 2013, over 60% of referrals made to breast clinic were for lumps, which was to be expected. The second most common reason for an urgent referral was breast pain, which made up 21% of the referrals in 1997 and 18% of referrals today. This was a disappointment, as there is firm evidence that pain as a primary complaint is rarely associated with breast cancer. Our cancer pick-up rate was 8% in 1997, and only 9% now. A clinical diagnosis within the spectrum of normality was made in almost half the patients seen in clinic, both now and back in 1997.

Conclusion: It is clear that despite the concerted effort to improve education in the setting of primary care, the reasons for referral to breast clinic have changed very little in 15 years.

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P024. An evaluation of Patient Reported Outcome Measures (PROMs) in breast reconstruction

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Background: The classic view of breast cancer is to remove the cancerous tissue and provide the optimal cosmetic result – often as determined by the surgeon. However quality of life after breast reconstruction, as determined by the patient, is becoming an increasingly valued entity. One way of measuring this is Patient Reported Outcome Measures (PROMs). This is a survey that evaluates a patient's satisfaction with their care, however their use is in its relative infancy and has not yet been optimised.

Aims: This systematic review aims to evaluate the current published evidence on PROMs, specifically looking at satisfaction and Health Related Quality of Life (HRQoL).

Methods: Studies looking at satisfaction after breast reconstruction were searched for in online databases and then relevant papers selected.

Results: 10 key trials were selected, 7 of which were multicentre trials and all of which had good sample sizes. A wide range of PROM questionnaires were used and a majority of the studies were found to be using new validated questionnaires and gaining good results. However several of the studies on which our knowledge in this field is taken are carried out using invalidated questionnaires and poor study designs.

Discussion: The results show an improvement in the research in this area over the last five years however there are still numerous areas to be improved, such as the consideration of patients' expectations prior to surgery. Successful steps forward in this field will provide better information for patients deciding upon the management of their breast cancer.

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P025. The triple assessment breast clinic- Is the resource being used efficiently?

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Introduction: Triple assessment is used to assess patients with symptoms suggestive of breast cancer and is facilitated by a one-stop clinic incorporating 3 assessment modalities (clinical, radiological, cytological) into a single clinic in most centres. However one-stop clinics are an inefficient, resource heavy method of outpatient assessment. Moreover there is increasing referral rate to these clinics. Difficulty recruiting breast radiologists to non-screening centres is also further stretching the implementation of one-stop clinics. Is the resource being used to its most efficient or could it be rationalised better?

Methods: Data was collected by random sampling of clinic records from the one-stop clinic over 1 year. Partially incomplete records were rejected

Results: 591 records were included. Urgent referral accounted for the majority (81%) of referrals. In 67% of referrals a symptomatic lump was the presenting complaint, the next most frequent breast pain (21%).

Imaging of some form was performed in 98% (an USS in 84% or mammogram in 67% or a combination). In total 38 invasive cancers were detected. The most frequent finding was of a "normal breast" (34%) followed by cysts (19%) and breast pain (14%)

Conclusions: The ratio of cancer to benign disease was 1:16 and estimated clinic cost to diagnose 1 cancer £1,962. 22 mammograms and 26 USS were performed to find 1 cancer in this data set. These results suggest the one stop clinic encourages over investigation at a single visit, and there is scope to triage the timing of imaging for less suspicious clinical findings to reduce pressure on radiology departments.

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P026. Management of nipple discharge: should we operate when advanced digital mammography does not suggest malignancy?

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Introduction: There are no clear guidelines for the management of nipple discharge when triple assessment indicates benign features. This study assesses the outcome of surgical management of nipple discharge.

Methods: A retrospective study of patients undergoing microdochectomy or total duct excision between 2008 and 2012 was undertaken. Patient demographics, outcomes of triple assessment and final histology were analysed. Fisher's exact test was used.

Results: Of a cohort of 81 patients, 86% (n=70) underwent total duct excision, and histology revealed malignancy in 12% (n=10). Of these 10 cases, benign features were identified in 90% clinically, 50% radiologically; and only 60% underwent core biopsy. Triple assessment only identified 2 of the 10 cases as suspicious, and 1 as malignant. Women over 50 years of age are more likely to have underlying malignancy (20%) compared to those under the age of 50 (0%) ($p<0.01$). In this study, 38% of women over 70 had associated malignancy. Of 3 male patients, 2 were diagnosed with malignancy and 1 with atypical ductal hyperplasia. Blood stained discharge was the most common presentation in surgically treated patients (43%) and in those found to have malignant disease (90%).

Conclusions: A malignancy rate of 12% indicates the need to offer surgical excision to patients with persistent symptoms and atypical history, particularly in women over 70 and men of any age. Women under 50 can be managed conservatively with close follow up.

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P027. A systematic review of novel techniques for the performance of sentinel lymph node biopsy in breast cancer

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Background: The current standard for axillary lymph node staging in breast cancer patients with a clinically and radiologically normal axilla, is sentinel lymph node biopsy (SLNB) using radioisotope and blue dye (dual technique). The dependence upon radioisotopes has resulted in SLNB uptake being limited to only about 60 per cent of eligible patients in the developed world and negligible elsewhere. We performed a systematic review to assess the alternative techniques for SLNB, which are not radioisotope dependent or which refine the current technique.

Methods: A systematic review was performed to identify all studies that evaluated novel techniques of SLNB for the axillary lymph node staging of early breast cancer. Pooled odds ratios (ORs) and 95% confidence intervals were estimated using fixed-effects analyses and random-effects analyses in case of statistically significant heterogeneity ($p<0.05$) for sentinel lymph node (SLN) identification rates.

Results: Twenty studies were identified covering 3 different techniques and involving 1903 patients. The techniques identified were indocyanine green fluorescence (ICG), contrast enhanced ultrasound using microbubbles (CEUS) and superparamagnetic iron oxide nanoparticles (SPIO). The SLN identification rates were a range of 77 - 100 per cent and no adverse events attributable to the techniques were recorded. There was a significant difference in the SLN identification rate for ICG *versus* blue dye favouring ICG (OR, 11.67; 95% CI, 5.18-26.26) but no significant difference between ICG *versus* radiocolloid (OR, 0.81; 95% CI, 0.03,24.29). CEUS *versus* the dual technique (OR, 0.02; 95% CI, 0.00, 0.12) demonstrated a significantly greater SLN identification rate for the dual technique. Inadequate data was available for quantitative analysis of SLNB performed by SPIO.

Conclusion: These new technologies for performing SLNB have clinical potential but currently have high false negative rates. This review could not identify any procedure that could challenge the current standard of the use of radio colloids or dual tracer procedure. Further assessment of these techniques against the standard dual technique within randomized controlled trials is required.

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P028. DIEP free flap reconstruction – Embracing the guidelines

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Introduction: When performing DIEP free flap reconstruction it is possible to weigh the flap prior to transfer. If the patient requests the reconstructed breast to be the same volume as the breast was prior to mastectomy then the weight of the reconstruction should be the same as the weight of the mastectomy specimen.

Aims: In our experience the weight of the mastectomy specimen is not always recorded or available. We performed a review of referrals to our unit to assess how frequently the mastectomy weight is recorded and available.

Method: We reviewed 52 sequential referrals for free DIEP reconstruction. We noted the number of cases where the surgeons had recorded the mastectomy weight and those in which the weight, or the pathology report, had been included in the referral letter, as per the 2012 Oncoplastic Breast Reconstruction Guidelines for Best Practice. We also reviewed the pathology reports and to see how many recorded the mastectomy weight, as per the 'Pathology Reporting for Breast Disease Guidelines'.

Results: None of the referral letters included a copy of the pathology report and 17% included the weight. The weight of the mastectomy specimen was recorded in 60% of pathology reports. When requested, the referring surgeon was able to provide us with the weight in 52% of cases.

Conclusion: Referrals between Oncoplastic MDTs frequently lack information about mastectomy weights which can make free flap reconstruction more difficult. We plead that the guidelines are followed and that the weight is easily available to the reconstructive surgeon.

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P029. Patient satisfactory level on inferior dermal flap and implant based breast reconstruction

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Introduction: Patient satisfaction for new and evolving techniques in breast reconstruction is an important means of evaluating outcomes. We have used the Breast-Q to evaluate the level of satisfaction of patients who underwent mastectomies followed by immediate one stage reconstruction with inferior dermal flap and implants.

Methods: Between 2009 and February 2013 the inferior dermal flap has been used as an immediate form of reconstruction following

mastectomy in larger ptotic patients who were unsuitable for autologous based reconstruction. An invitation letter was sent out to patients by mail along with the questionnaire. The Breast-Q (reconstruction module) scores were evaluated and compared to the British National Mastectomy & Breast Reconstruction Audit 2011 (NMBRA).

Results: Fourteen out of 17 patients (82% response rate) completed the Breast-Q questionnaire with a median follow up of 27 months.

87% of patients were satisfied with the overall outcome, with satisfaction scores of 78% for breast outcome, 89% for psychosocial, 74% for sexual well-being and 85% for physical well-being. Satisfaction with the competence of the surgeon and the medical staff was 96% and 100% respectively with 86% happy with the amount of information available to them.

This compares favourably against the results of the NMBRA.

Conclusion: The inferior dermal flap is often utilised in the most complex scenarios. We have found that patients are highly satisfied with this form of one stage immediate reconstruction.

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P030. The availability of mammotome biopsy in UK breast units: Results of a national questionnaire study

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Introduction: This study aimed to assess the availability of mammotome biopsy (MB) or equivalent in breast units across the UK.

Methods: Questionnaires were sent to breast surgeons in 231 breast units. They were asked cancer numbers treated annually, access to MB locally or elsewhere and procedure waiting times. Responses were stratified according to cancer numbers.

Results: Responses were received from 170 breast units (73.6% response rate). Overall 106 (62%) units offer local MB. Of those who don't, 47 (73.4%) refer patients elsewhere for the procedure. Of those with local MB, 85(80%) waited < 2 weeks for their procedure. Of those without and referred elsewhere, 15 (32%) waited < 2 weeks, 26 (55.3%) waited 2-4 weeks. See table:

Cancers / year	Units with access to local MB		No local MB, referred elsewhere		Waiting time Local MB / MB elsewhere / Weeks		
	Yes	No	Yes	No	<2 weeks	2 − 4	> 4
< 200	6	21	16	5	3 / 8	1/ 7	1 / 1
200 - 400	60	37	26	11	49 / 7	6 / 16	0 / 2
> 400	40	6	5	1	33 / 0	2 / 3	0/ 2
Totals	106	64	47	17	85/15	9/26	1/5

Conclusions: The majority of units have access to local MB. For those who do not and refer elsewhere waiting times are generally several weeks longer. Apparently for a small minority (10%) MB remains inaccessible.

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P031. Contralateral risk reducing mastectomy − The Manchester experience

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Introduction: During the last decade, rates of contralateral risk-reducing mastectomy (CRRM) have trebled. This trend is well documented in the US, with limited UK data. We describe our experience of CRRM from one of the largest units in the country.

Method: Consecutive CRRMs were assessed over a 3-year period (2009-2012). Contralateral breast cancer (CBC) risk was calculated based on mutation status, family history and cancer biology. We stratified the different risk-groups, observing trends in reasons for requesting CRRM, reconstructive options, access to different healthcare professionals and previous attempts at breast conservation.

Result: 67 patients underwent CRRM. Ages varied from 23-71 years (mean 43.8). Half the patients were in the high-risk group (>1:3 chance of developing CBC) compared to 40% in the low-risk group (<1:5). 60% of high-risk patients had immediate reconstruction compared to 25% in the lower-risk groups. Low and intermediate-risk groups had more attempts at previous breast conservation (40-50%) compared to high-risk patients (17%). Geneticists and psychologists were consulted more commonly in high-risk patients (60% and 42% respectively) compared to the low-risk group (5% and 25%). The main reasons women chose CRRM were concerns regarding CBC and family history. Concern regarding family history was highest in the high-risk group (67%) compared to 15% in the low-risk group. Desire for matching reconstructions was similar across groups.

Conclusion: Risk-stratification of women choosing CRRM is important. Each risk-group will have different factors contributing to the request for this procedure. Low-risk patients should be able to access other medical specialists to make an informed decision about CRRM.

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P032. Triple negative breast cancers − Can we safely omit chemotherapy in selected node-negative patients?

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Introduction: Adverse prognosis of triple negative tumours has long been acknowledged. Previous studies in our institution confirmed poor outcomes, recommending that chemotherapy be considered in all cases. This study provides an updated analysis of our patient population.

Methods: Patients with triple negative cancers diagnosed since 2008 identified using breast cancer database. Retrospective analysis of case notes and pathology reports.

Results: 49 patients diagnosed with mean age 64.6 years. 95.9% invasive ductal carcinomas. Mean tumour size 27.6mm with 83.7% grade 3, associated DCIS in 61.4% and vascular invasion 36.4%. 37.2% node positive. 45/49 underwent breast surgery, of these 83.7% had axillary clearance. 69.4% received adjuvant radiotherapy, 59.2% chemotherapy. At mean follow-up 32 months, 73.5% were alive and disease free, 6.1% alive with local recurrence, 2.0% alive with distant metastases and 18.4% deceased. The table shows results for those undergoing surgery.

	No chemotherapy (n=15)	Chemotherapy (n=29)
Age (mean years)	74.1	60.0
Tumour		
• Proportion grade 3	70%	100%
• Mean size	30.8mm	25.9mm
• Node negative	86.7%	50.0%
Alive, disease free	13 (86.7%)	23 (79.3%)
Alive, local recurrence	0	3 (10.3%)
Alive, distant metastases	0	1 (3.5%)
Deceased	2 (13.3%)	2 (6.9%)

Of note, 13/13 patients in the node negative/no chemotherapy group alive and disease free.

Conclusions: Outcomes confirm that these cancers present at a locally advanced stage and behave aggressively. However, node negative patients, not receiving chemotherapy, had a favourable outcome, all being alive and disease free at mean follow-up 36.5 months. It may therefore be safe to omit systemic therapy in this selected subgroup.

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P033. PERSEPHONE is a randomised phase III controlled trial comparing six months of trastuzumab to the standard 12 months in patients with HER2 positive early breast cancer

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Methods: PERSEPHONE is funded by the NIHR HTA programme in the UK.

4000 patients will be randomised into two arms (1:1). The power calculations assume that the disease-free survival (DFS) of the standard treatment (12 months trastuzumab) is 80% at 4 years. Randomisation of 4000 pts will allow the trial to prove non-inferiority of six months trastuzumab (5% 1-sided significance and 85% power). Non-inferiority is defined as 'no worse than 3%' below the control arm (12 month) 4 year DFS. Primary outcome is DFS, and secondary outcomes are overall survival (OS) non-inferiority; cost effectiveness; cardiac function and quality of life. Tumour blocks are collected to research molecular predictors of survival with respect to duration of trastuzumab treatment. Blood samples are analysed for single nucleotide polymorphisms (SNPs) as pharmaco-genetic determinants of prognosis, toxicity and treatment outcome. PHARE, a similar trial from the Institut National du Cancer in France, closed to recruitment in 2010 and presented early data at ESMO 2012. Following this an unplanned interim analysis of PERSEPHONE was presented to the Data Monitoring and Safety Committee (DMSC).

Results: PERSEPHONE commenced recruitment in October 2007. At abstract submission, 3080 pts (77%) had been randomised from 154 UK sites. Recruitment is due to complete by late 2015 with the first planned interim analysis of the primary outcome mid-2016. The iDMSC reviewed all data available on HERA and PHARE as well as a PERSEPHONE interim analysis. There were no safety findings or signals that would warrant a change of the study plan and the high quality of data returns was noted.

Conclusion: PERSEPHONE continues the active recruitment phase as planned. Preliminary but inconclusive PHARE data have reinforced interest in the PERSEPHONE trial both nationally and internationally. There has been full support from the UK Breast International Group and the international breast cancer community to answer this important shorter duration question.

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P034. Prediction of a threshold for intervention in breast cancer-related lymphoedema: A multi-centre prospective study

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Introduction: Early detection of lymphoedema in women undergoing axillary clearance (ANC) enables early intervention. Arm volume measurements that compare pre-surgical baseline with repeated measurements after surgery were evaluated to define an optimal threshold for intervention to prevent lymphoedema.

Methods: Participants (n = 556) undergoing ANC at 9 centres in England underwent pre-surgical and subsequent arm measurements post-surgery (1, 3, 6, 9 & 12 months, then 6 monthly). Change in arm volume was calculated using relative arm volume change (RAVC). The threshold for intervention in lymphoedema was assessed. Ethics approval was given by the South Birmingham Research Ethics Committee 19/03/2010.

Results: Median age was 55 years (range 24-90), median post-operative follow-up was 12.8 months (range 3.0-37.8) and median time to developing lymphoedema was 6.3 months. Eighty two percent of patients received adjuvant radiotherapy, while 69% had adjuvant chemotherapy and 85% received hormone therapy.

Lymphoedema incidence (RAVC of >10%) is shown in table 1. Using time to diagnosis of lymphoedema and Kaplan-Meier estimates of those developing lymphoedema by each time point, 13.7% were diagnosed by 12 months and 25.0% by 24 months.

Conclusions: Measurement increase of ≥5%-<10% in arm volume is the threshold for early intervention to prevent progression to lymphoedema. Multivariate analysis indicated that Oestrogen Receptor (ER) negative breast cancer, number of positive nodes and a measurement of ≥5%-<10% at 6 months after surgery predicted development of lymphoedema. Investigation of why more ER negative patients appear to be at an increased risk of developing lymphoedema is required.

Table 1
Lymphoedema rates during 24 months follow up

Follow-up to date		>3m ≤6m	>6m ≤9m	>9m ≤12m	>12m ≤18m	>18m ≤24m	>24m
N at risk		556	434	366	292	175	46
Lymphoedema	During interval	36	21	7	15	9	4
	Cumulative incidence	36	57	64	79	88	92
KM* Prob of event		7.1%	11.8%	13.7%	19.0%	25.0%	-

*1-Kaplan-Meier estimates.

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P035. Audit of reoperation rates in screen detected breast cancer 2010/11 with re-audit 2012/13

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Introduction: The NHSBSP Quality Assurance standard states that 90% of women with screen detected cancer with a single lesion should have one operation to ensure complete excision. Following a QA visit in April 2011, Gloucestershire was asked to audit their re-excision rates as performance had fallen below this standard (2007/8; 50.3%, 2008/9; 56.6%, 2009/10; 62.2%). After this initial audit, some recommendations were adopted and a re-audit performed.

Methods: A retrospective review of all women screened between 1st April 2010 and 31st March 2011 with screen-detected breast cancer. Data were collected on all women who underwent more than one operation including their worst biopsy result, the size of the lesion and the nature of their operations. The re-audit collected the same data for all women screened between 1st April 2012 and 31st March 2013.

Results: 205 women were included from 2010/2011. 65.4% women underwent complete excision with a single operation and 30.2% required two operations. Subsequent recommendations included recording the maximum imaging size of the lesion, improved discussion of wire placement at the MDT, all cavity shaves to be orientated, increased usage of specimen X-ray and implementation of a single county MDT. After adoption of these a re-audit was performed in 2012/13. Of 221 women in the sample 76.9% women underwent complete excision with a single operation and 23.4% required two operations.

Conclusion: This demonstrates that following implementation of recommendations from the original audit the number of women having complete excision with one operation increased by 11.5%.

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P036. Retrospective study into the rates of mastectomy and breast reconstruction at a District General Hospital

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Introduction: The National Mastectomy and Breast Reconstruction Audit (NMBRA) was set up in 2008 to evaluate the provisions for mastectomy and breast reconstruction services in England and Wales.[1] Their findings, along with guidance from the National Institute of Clinical Excellence, has highlighted the importance of breast reconstruction following mastectomy.[2] We conducted a study of the mastectomies and breast reconstructions performed on patients at our unit.

Methods: All mastectomies performed between April 2011 and October 2013 were reviewed using our electronic theatre database and record of correspondence.

Results: 135 patients underwent mastectomy, either unilateral or bilateral, performed by two consultants over the 30 month study period. The median age was 64 years (range 20-89 years). Most commonly, patients underwent mastectomy for a malignant tumour with 5 (3.7%) undergoing mastectomy as risk-reduction.

Reconstruction was performed on 34 of the 133 female patients (25.6%). 19 of these (14.3%) were immediate reconstructions with the remaining 15 patients (11.3%) underwent delayed reconstruction.

Evidence of a discussion regarding breast reconstruction was found in 57% of these patients' records, including where reconstruction was clinically inappropriate

Conclusions: Compared to the NMBRA data, although a smaller proportion of our patients are undergoing reconstruction, more are undergoing a delayed procedure. To improve on this we are changing how we record discussion of breast reconstruction following mastectomy and plan to re-audit in a year.

Following on from this study we are assessing patient outcome measures after breast reconstruction using Breast-Q and independent expert assessment of photographs.

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http://dx.doi.org/10.1016/j.ejso.2014.02.036

P037. Angelina Jolie's effect on referrals to a district general hospital Breast Unit

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Introduction: Angelina Jolie announced in May 2013 that she had risk reducing mastectomies with reconstruction to decrease her risk of developing breast cancer from 87% to 5% due to carrying the BRCA1 gene[1]. This study aims to identify if the announcement of a celebrity undergoing this surgery leads to an increase in referrals to a breast clinic.

Methods: Surrey and Sussex Healthcare Trust serves a population of 535,000. All new referrals to the breast unit from 1st May 2012 until October 2013 (7 months) were reviewed as well as referrals to the Genetic Family History clinic from May 2013. Mention of Angelina Jolie is recorded if recalled or documented.

Results: From May 2013 to October 2013, 1757 referrals were made to the Breast Unit compared to 1499 over the same period the previous year. There was an increase of 17.2 %. 5% (36/700) were referred due to family history. Twelve patients (33%) mentioned Angelina Jolie during their consultation. Twenty required high-risk annual surveillance. Ten did not require surveillance. Six were referred to the genetics service and 2 were found to be BRCA carriers

Conclusion: Celebrity illness has been shown to effect public awareness. Following Kylie Minogue's announcement of breast cancer more patients were referred for mammograms[2]. Nancy Reagan's mastectomy led to an increase in mastectomy rates despite eligiblity for breast conservation surgery[3]. Since Angelina Jolie's announcement this breast unit not only received more referrals but also a third of patients referred due to family history specifically mentioned her name.

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P038. A comparison of common prognostic and predictive tools in early breast cancer

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Introduction: An understanding of the likely prognosis and the benefits of available systemic adjuvant therapies are critical for counselling patients and for decision making in early breast cancer. Web-based programmes offer convenience, easy access and methods to share and discuss results with patients.

The most commonly used web-based prognostic tools are:-

ADJUVANT ON LINE, NEWADJUVANT ON LINE, PREDICT, LIFE MATH

NOTTINGHAM PROGNOSTIC INDEX*

These tools are derived from differing datasets and calculate the benefits of systemic adjuvant therapy in different ways, providing differing outputs

Methods: We compare the results of these tools in a number of clinical situations and examine the differences in derived results in the context of stage, patient age, pathological grade and ER/PR/HER-2 status.

Results: The outputs for these prognostic tools differ considerably in differing clinical situations and this variation is not explained by the different information requirements at data input. For instance LIFE MATH provides substantially better prognostic estimates in high risk disease compared to the others but tends to provide a worse prognosis in low risk disease.

Conclusion: It is of concern that the outputs from these prognostic/predictive tools can vary considerably. Their use should be accompanied by a good understanding of their derivations and limitations.

*Not available on line

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P039. Clinical experience with use of SERI® in two-stage implant-based breast reconstruction: 6-Month follow-up of 139 patients

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Introduction: SERI® is a silk-derived, long-term bioresorbable scaffold developed for soft tissue support.

Methods: SURE-001(NCT01256502) is a prospective, single-arm, multicenter study in patients undergoing two-stage breast reconstruction. Institutional Review Board approvals were obtained from all study sites. At the time of mastectomy/stage I surgery, SERI was placed during subpectoral placement of a tissue expander, which was replaced with a permanent implant during stage II surgery.

Results: A total of 139 subjects (214 breasts) were enrolled in SURE-001 and will be followed for 24 months; data on all patients followed for 6 months are reported here. At 6 months, 75 subjects (118 breasts) had undergone stage II surgery. Subject satisfaction score (mean±SD; 5=very satisfied) was higher at 6 months (4.3±0.91) compared with screening (3.6±1.05; $P<0.0001$ [paired t-test]). Investigator satisfaction score (mean±SD; 10=very satisfied) at 6 months was 9.4±0.84. SERI was assessed as easy/very easy to use in >98% of instances across five categories during stage I surgery (before implantation: preparation, cutting/shaping; during implantation: positioning/drapability, suturing; after implantation: cutting/shaping). Key AEs in 214 breasts: tissue necrosis (6.1%), seroma (6.1%), hematoma (2.8%), breast infection (1.9%), cellulitis (1.9%), implant loss (1.9%), capsular contracture (0%). None were assessed by investigators as due to SERI.

Conclusions: In the 139 patients enrolled and prospectively followed in SURE-001, subject satisfaction with the treated breasts increased from screening through 6 months. High degrees of investigator satisfaction and ease of use with SERI were reported. AE rates are comparable with those reported for implant-based breast reconstruction with ADMs.

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P040. Learning curve in therapeutic mammaplasty and effect of formal oncoplastic training

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Introduction: Therapeutic mammaplasty (TM) offers breast conservation in women with large breasts with the added benefit of volume reduction and improved cosmesis. This study investigates whether the implementation of TM is associated with a learning curve and whether formal oncoplastic training (National Oncoplastic Fellowship) has an effect on surgical outcomes.

Methods: A prospective series of 50 patients undergoing TM at a single unit from 2009 to November 2013. The effect of learning curve and oncoplastic training upon re-excision rates and complications was investigated. Learning curve cohorts were categorised by time in blocks of 10 patients and analysed using Spearman rank correlation coefficients (SPSS software). Univariate analysis of predictors of surgical outcomes was performed using logistic regression.

Results: 50 patients underwent TM over the 5 year period. Five procedures were performed in 2009, two in 2010, 13 in 2011, 16 in 2012 and 12 procedures to September 2013,

There was no evidence of a learning curve upon re-excision rates (6/50) or complication rates (16/50) over the 5 year period ($p=0.9$ and $p=0.7$ respectively). Univariate analysis showed no difference in surgical outcomes in procedures performed by those who had formal oncoplastic training (n=4) compared with surgeons who had not (n=5) (re-excision $p=0.7$, complications $p=0.1$).

Conclusion: TM can safely be performed by experienced breast surgeons with no demonstrable learning curve. Completion of an oncoplastic fellowship had no effect on re-excision or complications. A further study of cosmetic outcomes for these patients would be a useful addition once we have a validated outcome tool.

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P041. 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 complication after breast surgery. In up to 8-12% seroma formation leads to severe problems during postoperative care such as repeated aspiration, wound healing disorders, surgical revision and delayed adjuvant treatment. The surgical adhesive TissuGlu®, as new device for minimization of seroma-formation is a lysine-derived urethane curing moisture behaviour. The adhesive is resorbable and biocompatible and forms a bond between tissue layers, selective tissue adhesion and 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 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=10).

Results: A reduced seroma rate and a lower wound healing deficit could be surveyed. 13 patients with the average age of 70 (44-86) with a BMI of 25 (21-35) were analysed. The average specimen weight was 625g (160-1980g), the resection-surface was 342 cm^2 (165-510). 3 patients underwent a complete axillary dissection, 3 a Sentinel Lymph Node Biopsy. A seroma-aspiration was only necessary in two cases; one patient with a BMI of 34, weight of the tumour 1980g, complete axillary dissection.

Conclusions: Our experience on a 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. A randomized prospective No-Drain-Mastectomy-Trial is initiated. Protectively collected date will clarify future use and economic profitability. The preliminary data will be presented.

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P042. Titanized polypropylene mesh Tiloop®Bra in reconstructive breast surgery − Indication and complication rate

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Introduction: Breast cancer surgery has taken a turn over the past decades. Quite a few publications outlined that the application of tissue-supporting materials result in improved cosmetic outcome, as shaping of the breast mound and implant bed can be optimized. Even the German AGO guidelines have added the usage of tissue-supporting extraneous materials to the section of reconstructive breast surgery in the year 2011 (Oxford LoE 2b). Considering the insertion of the titanized polypropylene meshs into breast reconstructive surgery, shape and size were optimized specifically for breast surgery.

Material and Methods: Postoperative maintenance of drainage, antibiotic application, hematoma, seroma, infection, capsule and necrosis rate were documented. In 65.5% of the cases an immediate reconstructive procedure and in 34.5% a secondary/delayed reconstructive procedure was done. Immediate reconstruction via nipple sparing or skin sparing mastectomy and implant placement was performed in 40.2%; with expander placement in 23%; modified radical mastectomy and immediate implant or expander placement took place in 2.2%. Exchange from expander to implant was performed in 11.5% and accordingly 16%. In 231 mesh based procedures complications occurred in 4.8% seroma, in 9.5% superficial hematoma, in 6.1% skin infection, in 3.9% skin necrosis, in 3.5% partial nipple necrosis, in 7.8% re-operations with removal of the mesh and in 2.2% capsular fibrosis. Neither nicotine abuse, hypertension, diabetes mellitus, age $>$ 50 years, BMI $>$ 27, nor radio- or chemotherapy are significant factors for complications.

Discussion: All in all long term data of our collective is now required to provide more detailed information about cosmetic outcome and long-term patient satisfaction. Questions about patient satisfaction with immediate implant reconstruction with titanized polypropylene mesh will be part of further follow up in a prospective trial (ProBra Surveillance).

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P043. Outcome after dermal sling-assisted immediate breast reconstruction

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Introduction: Dermal sling (DS) assisted immediate breast reconstruction is an alternative to Acellular Dermal Matrix (ADM) for patients with breast ptosis. Previous data from our Unit showed that patient satisfaction was high in the initial period. We now report longer follow up.

Methods: Patients were identified from an electronic prospective database and their records reviewed. Patient satisfaction and quality of life were determined using the BREAST-Q© questionnaire.

Results: Between October 2008 and August 2012, 44 patients underwent 58 DS assisted breast reconstruction procedures. Their median follow up was 29 (range 7−55) months. The most common immediate postoperative complication were superficial T-junction breakdown in 16 (27%) DS, superficial wound infection in 13 (22%) DS and seroma in eight (13%) DS. Only one patient required implant removal due to infection. At long term follow up two patients had their reconstruction converted to Latissimus dorsi flap for persistent asymmetry. Two further patients underwent mastectomy, one for pain and one for local recurrence. BREAST-Q© scores for outcome were 79.2 in 2011 and 71.8 in 2013.

Conclusions: DS is an effective and safe alternative to ADM with less than 10 per cent conversion rate at 4.5 years. BREAST-Q© responses in 2013 indicated sustained high satisfaction with the reconstructed breast, that dropped only slightly at longer follow up. The BREAST-Q© scores were consistently superior when compared to the data of National Mastectomy and Breast Reconstruction Audit.

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P044. What happens to the axilla in patients with a complete pathological response following NACT at surgery: Experience from Leeds

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Introduction: There is an increasing use of neoadjuvant chemotherapy (NACT) and radiological assessment during NACT is a common practice. We attempted to correlate radiological (MRI) and pathological response in both breast and axilla in patients receiving NACT in Leeds.

Method: At diagnosis the axilla was assessed with US. If axillary US was benign then an upfront sentinel lymph node (SLN) procedure was performed prior to NACT. If the axilla was initially positive on FNAC for malignancy an axillary node clearance (ANC) at the time of breast surgery was performed.

Patients receiving NACT were monitored during treatment with MRI which was performed prior to NACT and then after 2 cycles to assess response. A further MRI scan was performed if the chemotherapy regimen was changed based on a stable or minimal response. The MRI was used to assess breast lesions and response within the axilla. The MRI responses were categorised as stable, minimal, partial, almost complete or complete. Pathological complete response is defined as no residual invasive disease being present after surgery. Retrospective data were obtained from the radiology MRI database from January 2010 to December 2012. The baseline imaging features, MRI imaging and core and final surgical histology were documented.

Results: 150 cases of NACT were identified over this 3 year period.

41 cases of pCR were identified (27%). All cases had no residual invasive disease and 16 cases had residual DCIS present. Of these patients who achieved pCR 28 patients had a positive axilla (25 on FNA and 3 SLN) prior to starting NACT.

At the time of final surgery all 28 patients had ANC. In 21 patients the lymph nodes were negative with evidence of tumour regression. 7 patients had a positive axilla (2 had micrometastasis, 3 had one lymph node positive, 1 case 2 lymph nodes and 1 case 15 lymph node.)

MRI showed the lymph nodes to be responding and in the majority of cases return to normal appearance. The case with 15 lymph nodes still had abnormal nodes on MRI.

Conclusion: This retrospective study suggests that women with a positive axilla prior to NACT who have a pathological complete response often have minimal residual disease burden in the axilla. MRI may play a key role in tailoring surgical management of the axilla. With the use of MRI and repeat US FNA /core of the axilla select cases may be subject to a SLN or no axillary surgery rather than ANC. This would reduce the morbidity of ANC associated with this good prognostic group.

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P045. Outcomes following implant-based breast reconstruction using Strattice™ acellular dermal matrix

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Introduction: Strattice™ acellular dermal matrix can be used in implant-based breast reconstruction following mastectomy to facilitate

one-stage reconstruction with improved cosmesis in terms of infra-mammary fold definition when compared to total muscle coverage.

Methods: A series of 51 implant-based reconstructions with Strattice™ acellular dermal matrix were carried out in 44 consecutive patients undergoing mastectomy between January 2011 and November 2013 and followed up in a dedicated oncoplastic breast clinic.

Results: The median age of the patients at the initial surgery was 50.4 years (range 31.5-73.0 years) with a median follow up of 20.2 months at the time of analysis. 27 (61.4%) patients received chemotherapy, 24 (61.4%) underwent radiotherapy. 39 (88.6%) reconstructions were immediate, of which 5 were planned as 2 stage procedures. 11 (25.0%) underwent contralateral reduction mammoplasty. 6 (13.6%) patients had their reconstructions taken down during the follow-up period (5 for infection, all of whom had undergone radiotherapy, one for locoregional recurrence); a further 8 (18.2%) required implant exchange and 7 (15.9%) patients, all of whom had undergone radiotherapy, were noted to have capsular contracture during follow up. 4 patients experienced capsular contracture requiring implant exchange.

Conclusion: While the majority of implant-based breast reconstructions with Strattice™ acellular dermal matrix have a successful outcome, patients should be counselled pre-operatively that complications resulting in revision surgery or implant loss occur relatively frequently despite careful patient selection. The rates in this study are consistent with previously-published results for reconstructions using acellular dermal matrices.

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P046. Breast pain relief following lipomodelling in patients with previous breast surgery

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Introduction: Breast pain is a frequent feature in patients undergoing breast surgery. Our aim was to ascertain the prevalence of this symptom following lipomodelling in patients who had previous breast surgery.

Methods: We analysed our series of 35 consecutive patients, all female (age 35-73, average: 53) undergoing 52 lipomodelling procedures between August 2012 and November 2013. 19 (54%) had significant comorbidity ranging from fibromialgia, spondilitis, depression, needle phobia to arm lymphoedema, colostomy, previous stroke and cerebral aneurism. Average BMI: 27 (20-37). 10 (28%) declared smokers, 5 (14%) declared >10 alcohol units/week. The vast majority (91%) had previous complex and often bilateral staged breast procedures dating back from one to 13 years. 14 (40%) had previous radiotherapy; 18 (51%) previous chemotherapy. 15 (42%) were still on endocrine treatment at the time of lipomodelling. 27 (77%) took pain killers and/or other regular medication ranging from ibuprofen to gabapentin and amitriptyline. All patients were assessed before and after lipomodelling and comments about breast pain were recorded.

Results: 15 (42%) patients reported breast pain before lipomodelling. In 12 cases, the breast pain represented an indication for the procedure. All patients achieved relief of the breast pain following lipomodelling as reflected by comments ranging from "good result", "now comfortable", "pleasing result" to "delighted", "dramatically improved", "pain controlled".

Conclusion: We observed a high prevalence of breast pain in patients with previous breast surgery. Following lipomodelling patients reported an improvement of this symptom often in association with a general better outcome. Even considering an observer bias, our series shows a role of lipomodelling in treating breast pain following breast surgery.

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P047. Wire mark-up of breast lesions. Does the type of wire matter?

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Introduction: Non-palpable breast lesions must be localised radiologically in order to be excised. Our unit uses the Hawkins and X-Reidy wires inserted under local anaesthetic with either stereotactic X-ray or ultrasound guidance. Unfortunately due to the fatty nature of breast tissue wires can slip from their target. We sought to investigate the efficacy in localisation between these wires.

Methods: Specimen x-rays (Faxitron) were taken for all wire-localised lesions from April 2012-April 2013 (120 cases). The distance of wire away from, or through, the target lesion was calculated. Findings were compared against ABS wide local excision standards and between wire-types.

Results: ABS standards;

1. >95% of marker wires should be <10mm of the lesion in any plane (85% (93/109) Hawkins 92% (11/12) X-Reidy);
2. ≥90% of open surgical biopsies for diagnosis which prove benign should weigh ≤20g and 100% weighing >40g should be discussed at post-operative MDT (≤20g 100% (7/7), >40g 100% (5/5));
3. ≥ 98% of impalpable lesions should be correctly identified at first operation (98.1% (107/109) Hawkins, 100% (12/12) X-Reidy);
4. Confirmation of identification should be made by specimen radiography (100% (120/120)).

The closest margin was >10mm in 37% Hawkins and 50% X-Reidy cases and 23% and 8% of cases respectively required further surgery.

Conclusions: All ABS standards were passed except '95% wire markers being within 10mm' (85% Hawkins, 92% X-Reidy). X-Reidy appears to give better surgical outcome in terms of requirement for further excision despite being used preferentially in fattier breasted women.

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P048. Introduction of Enhanced Recovery After Surgery (ERAS) pathways in latissimus dorsi flap reconstruction

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Background: Further to the successful adoption of the ERAS (Early Recovery After Surgery) pathways in specialities such as colorectal surgery, there is emerging evidence supporting its use in breast surgery including identification of components of ERAS applicable to oncoplastic breast surgery.

A review of our breast reconstruction practice showed that the length of stay (LOS) was twice the national expected LOS. Subsequently, we developed an ERAS pathway for LD flap breast reconstruction. We present data from our practice before and after the introduction of ERAS in LD flap reconstruction in July 2012.

Methods: Data on LOS following 195 LD flap reconstruction was collected from the HES database between April 2009 and April 2013. Average LOS pre- and post-ERAS (July 2012) were compared. Also, financial benefit to the trust was calculated pre- and post-ERAS using Trust's average bed day cost (£190.00).

Results: ERAS pathway reduced LOS from a mean of 5.6 days (n=169, 38 months) to 4.2 days (n=23, 10 months). Reduction in LOS amounted to concomitant reduction in the average cost per patient stay by 25%.

Conclusion: Our early result demonstrates patient and staff engagement with ERAS LD flap reconstruction pathway resulting in reduction of the LOS and the average cost per patient. In addition, in future, this practice can attract quality (such as CQUIN) related income to the trust.

However, maintenance of robust post-discharge support is essential to prevent a concomitant increase in re-admission rates.

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P049. Radial scars and complex sclerosing lesions: A year's perspective

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Introduction: Whilst benign, radial scars (RS) and complex sclerosing lesions (CSL) are not infrequently diagnosed following suspicious imaging features and are reported to be associated with malignancy in up to 40% of cases, no imaging characteristics reliably predict which, and therefore common practice has been to recommend excision.

Method: All cases of RS reported between August 2012 - July 2013 (either primarily on CB or at wide local excision for breast cancer) were reviewed with regards to radiological features and presence of malignancy.

Results: 20 CB specimens were reviewed. Two specimens were associated with malignancy on original core biopsy. In the remaining 18, three cases were excluded as no subsequent excision was performed for histological comparison at the time of analysis. Of the remainder, two biopsies revealed DCIS, and one revealed invasive carcinoma. This equates to 21% of B3-graded core biopsy specimens yielding DCIS or invasive malignancy over this time period.

14 wide local excision specimens were reviewed, of which 7 involved malignancy associated directly with RS, and 7 revealed malignancy present in adjacent background tissue.

Conclusions: RS are histologically complex lesions, for which excision has traditionally been recommended to exclude associated malignancy, described as approximately 10%. Our data suggests this proportion is even higher (and may have been underestimated as RS does not form part of the breast cancer minimum pathology dataset). On this basis, we will continue to recommend diagnostic excision of these lesions until further evidence for the utility of MRI or vacuum-assisted biopsy for these patients becomes available.

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P050. Obesity delays 62 day treatment pathway for breast cancer

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Introduction: There is increasing obesity in the UK, affecting 26% of women. The highest rate is in the West Midlands. (HSCIC 2013) This growing obese population will significantly impact health care. Breast cancer diagnosis and treatment have a 62 day cancer target. (CRS 2007) Accepted practice is triple assessment which is affected by elevated BMI; more difficult examination, repeated biopsy, technically difficult and time consuming imaging. This can delay diagnosis and treatment of breast cancer.

Method: Somerset Cancer Database was used to identify all patients diagnosed with non-invasive or invasive Breast Cancer from 1st April 2012 - 31st March 2013 at Shrewsbury & Telford NHS Trust. Patients having hormone treatment or radiotherapy alone were excluded. Patient demographics were obtained from Pre-operative Anaesthetic Database. Biopsy rate was obtained from review. Imaging was reviewed by Breast Radiographer. SPSS was used to calculate independent T-test for statistical analysis.

Results: 505 patients were diagnosed, of these 352 had surgery. Mean age 60 (30-87), mean BMI 28.6(16.5-55), with 35% of patients classified as obese.

Number of days to treatment of BMI <25, compared to BMI>35, 36 to 42 days was statistically significant $P>0.0438$ ($T=2.0348$, SE 2.949). Time taken for mammogram for super-obese patient BMI compared to normal BMI was significantly longer 7.5 minutes to 3.4 minutes $P>0.0001$ ($T=11.6028$, SE 0.353).

Conclusion: Obesity significantly delays treatment pathway in Breast Cancer patients, and increases mammographic imaging time. These are important considerations with an increasingly obese population for health care provision planning of such patients.

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P051. Evaluation of the 'Moving On' programme. An educational programme for patient's newly diagnosed with breast cancer

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Aim: The 'Moving On' programme was devised to support and enable breast cancer survivors to live as healthy and as good a quality life for as long as possible. Evidence shows that many breast cancer survivors have unmet needs, particularly at the end of treatment, whilst others are struggling with consequences of treatment that could be either avoided or managed.

Methods: A programme of educational sessions addressing patients' wants and needs was devised and patients 3-6 month post treatment were invited to attend. The session lasted 3 hours and ran over 4 consecutive weeks. The pilot programme ran every 3 months for 1 year. An audit of each educational session was undertaken alongside HAC's assessments at the beginning and at the end of the programme.

Results: Preliminary findings are very favourable for continuing with a rolling educational programme for breast cancer patients.

Conclusion: The data supports the need to provide a sustainable education programme to help meet the needs of breast cancer survivors.

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P052. Electrochemotherapy in the treatment of skin metastases in breast cancer: Lessons learned

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Introduction: Electrochemotherapy (ECT) is approved by The National Institute for Clinical Excellence (NICE) for the treatment of breast cancer skin metastases. This study aimed to assess how patients are benefited and identify potential problems prior to implementing this treatment as a standard of care in our hospital.

Methods: Patients referred to the Royal Free Breast Unit, London and deemed suitable for Electrochemotherapy by the multi-disciplinary team were offered treatment. Patients received an intravenous dose of Bleomycin 15,000IU/m^2 given as fast bolus with Body Surface Area (BSA) calculated according to the Dubois formula. After 8 minutes treatment was commenced with Cliniporator^{TM}, which delivered electrical pulses via an electrode inserted through the skin surface. Complications, post operative pain and length of in-patient stay were recorded. Patients were followed up for 6 months.

Results: 6 patients received 7 treatments between 2011 and 2013. 14 separate areas were treated; 10 extensively diffuse and 4 discrete nodular. There were no deaths or adverse events in the intra-operative or peri-operative period. The average length of stay was 3 days with improvement of all treated cases, low pain scores and no wound complications. However an expanding tumour edge appeared away from treated areas with new tumours appearing between gaps requiring further treatments. One patient

developed pulmonary fibrosis presumed secondary to 4th ECT treatment. Another patient developed unexplained pulmonary hypertension after second ECT elsewhere.

Conclusion: Electrochemotherapy is effective but requires appropriate patient selection and pre-and post treatment pulmonary function tests as diffuse areas require multiple treatments. Peri-operative Gabapentin is recommended for pain control.

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P053. Detailed evaluation of One Step Nucleic Acid (OSNA) molecular assay for intra-operative diagnosis of sentinel lymph node metastasis and prediction of non-sentinel nodal involvement: Experience from a London Teaching Hospital

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Introduction: OSNA has been recommended whole node analysis for intra-operative assessment of sentinel lymph nodes by The National Institute of Clinical Excellence (NICE). This study compared 50% node analysis by OSNA with histopathology and discordant cases were identified and investigated. The cytokeratin 19 mRNA copy number was measured to establish the relationship between sentinel node positivity and non sentinel node metastasis.

Methods: Breast cancer patients with ultrasonographically negative axilla underwent staging with sentinel node biopsy. Sentinel lymph nodes were intra-operatively evaluated by OSNA and subsequently with standard histopathology undertaken on alternate slices of the excised nodes. Analysis was performed by OSNA and conventional histology in 268 nodes from 170 patients to evaluate sensitivity, specificity and concordance of the two methods. Additional analysis was done to investigate how cytokeratin 19 mRNA copy number affects prediction of non-sentinel lymph node positivity.

Results: OSNA sensitivity was 93.2% (95% CI: 81.3% to 98.6%) and specificity 95.8% (95% CI: 92.4% to 98.0%). Concordance with histopathology was 95.6% with 12 discordant results. In the patients who had axillary clearance, the OSNA mRNA copy number on the sentinel node had 100% negative predictive value for histologically proven metastasis. mRNA copy numbers <1400 were not associated with histologically proven metastasis in subsequent nodes at axillary clearance. The AUC of mRNA copy number alone was 82.8% comparing favourably against nomograms.

Conclusion: OSNA 50% node analysis accurately evaluates sentinel nodes. Identification of a mRNA copy number threshold predicting the positivity of non-sentinel axillary nodes is feasible and would be of clinical importance.

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P054. The effect of reconstruction type and radiotherapy on pigment uptake in nipple tattooing

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Introduction: Nipple tattooing and patient satisfaction following tattooing is well documented. There is no literature describing any differences between ease of tattooing and longevity between different reconstruction types or the effects of radiotherapy (RT) on subsequent tattooing. Since 2005 nipple tattoos have been performed by a single nurse practitioner, in a dedicated clinic, following LD (latissimus dorsi) and TRAM (transverse rectus abdominus myocutaneous) flap reconstructions. The aim of this study was to determine whether type of reconstruction or use of post-reconstruction radiotherapy had any effect on the number of tattooing episodes required?

Methods: A retrospective case note review of all clinic attendances between 2005 and 2013. The number of attendances required to achieve patient satisfaction was calculated.

Results: 124 patients were included. 31 underwent TRAM flap reconstruction all without post-reconstruction radiotherapy. 93 underwent LD reconstruction of which 18 had post-operative radiotherapy. The number of single procedures required to obtain a result satisfactory to the patient were compared. Using a Fisher exact test we found no significant differences between the number of patients satisfied after one or more than one session in either LD v. TRAM (56% v. 50%, $p=0.67$) or in LD (no RT) v. LD (with RT) (56% v. 60% $p=1.0$).

Conclusions: This small study suggests that neither the type of reconstruction nor the use of post-reconstruction radiotherapy has any impact on the number of tattoo sessions required to achieve a result satisfactory to the patient.

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P055. The internet; what are our patients exposed to when considering breast reconstruction following mastectomy and how can we guide them

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Background: The use of the internet by patients undergoing breast reconstruction surgery can be estimated as between 40-60%. As clinicians providing this care, we have a responsibility to guide patients and ensure that the information they receive is accurate and balanced. This study explores what information patients are being exposed to. It provides an insight which can enable care providers to informatively guide patients.

Methods: The term "breast reconstruction after mastectomy" was used to search Google and Bing, accounting for 85% of all internet searches undertaken. The first 100 sites on each search were examined. No sites were excluded and duplicate results were counted. Target audience, provider and readability were assessed. The modified HON (Health on the Net) criteria were used to assess the quality of sites.

Results: Of the 200 sites, 82% were targeted towards patients. Commercial and private companies dominated, accounting for 67% of sites. The majority of these sites were from private healthcare groups advertising their services or products. Of those portrayed as information pages, 16% were government sites and 9% were from professional bodies but 28% were private companies. Blogs and magazines commonly included surreptitious advertising. Just 6% of information was government provided and only 13 sites were those recommended in the BAPRAS guidelines. All NHS sites had a link to a recommended site.

Conclusion: The internet is a powerful tool for disseminating information. There is a wide variety of information presented on breast reconstruction following mastectomy from a range of providers with different interests. Given the wide variation, healthcare providers have a responsibility to direct patients to specific sites for information.

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P056. Re-audit: HER2 status and the decision for systemic treatment in breast carcinoma patients

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Introduction: HER2 has evidently been associated with the pathogenesis of Breast Cancer. The aim of the audit was to assess the timing of the

HER2 results of breast carcinoma in Multidisciplinary Team (MDT) context and compare it against the NICE guideline '*Early and locally advanced breast cancer. Diagnosis and treatment*'.

Methods: Data was collected prospectively during the study period at MDTs in St Richard's Hospital, regarding number of patients, consideration for systemic treatment and availability of HER2 results.

Results: 101 cases were discussed during audit period at the Breast MDT of whom 21 patients had treatment decisions made regarding adjuvant systemic treatment. In 20 cases, HER2 status was available. In the case where HER2 status was unknown, the core biopsy specimen had been too small to allow HER2 testing and this was later carried out on the operative specimen. We accept that sample size occasionally precludes early HER2 assessment, and was noted in 2010. In the initial audit in 2010, 3 cases were delayed because of batching and late receipt of histopathology information. In 2012 no cases were delayed by these factors, but 1 case was delayed by small sample size.

Conclusions: The recommendations of avoiding delays in HER2 testing have had a positive impact on the availability of the results for the time of the MDT meeting. It is recommended to continue monitoring HER2 status in women with Breast Cancer, because it has been proven to be one of the most important markers of aggressive disease.

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P057. Symptomatic U3 lesions: An audit of 400 patients

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Introduction: A U3 indeterminate lesion in the breast carries a 5-50% risk of malignancy. ABS Guidelines advise image needle biopsy to complete triple assessment and that core biopsy is preferred over FNAC particularly for solid lesions due to this method having a higher sensitivity and specificity. We reviewed our data in accordance with this.

Method: Data on 400 consecutive patients with symptomatic U3 lesions was collated retrospectively from a single centre district general hospital from August 2010 until April 2012. Patient demographics, imaging, biopsy results by cytology or histopathology were reviewed. If surgery was undertaken the histology was reviewed for correlation with biopsy diagnosis. Notes were reviewed for follow up information until December 2013.

Results: 400 patients were analysed; 8 male, 392 female (age ranged from 18 to 101 years). The majority of patients with U3 lesions were aged 40-73 however approximately a third of patients presenting were 39 years old or younger. 33 cancers were diagnosed. Of these 7 cases of were given a U3 grading but thought to be fibroadenomas on imaging. These patients were aged between 36-65 years old with mammograms coded as M2 or M3. 2 patients were diagnosed with phyllodes tumours on surgical excision. Both were benign but not diagnosed on needle biopsy. 50 patients did not undergo needle biopsy for reasons such as patient factors and further imaging. To our knowledge and review of the notes, no cancers were missed, however, delay to diagnosis was seen with FNAC giving inadequate results and when scans were performed by a 'non-breast' radiologist. Our breast imaging is now performed by breast radiologists and images discussed at benign or malignant MDT as appropriate.

Conclusion: All indeterminate breast lesions require needle biopsy for diagnostic purposes and core biopsy remains preferential over FNAC. We highlight that breast imaging should be undertaken by specialist breast radiologists able to perform core biopsies to prevent delays in diagnosis and all patients with indeterminate radiology should be discussed at an MDT meeting.

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P058. Introducing an oncoplastic MDT to facilitate teaching and training in the breast unit

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Introduction: Oncoplastic surgery has become a challenging, rewarding and dynamic part of breast surgery. Despite oncoplastic surgery becoming increasing popular and fellowships becoming available following CCT, variation exists in techniques of oncoplastic and reconstructive breast surgery amongst breast units and no formal training in oncoplastic reconstructive surgery exists during speciality training. Our aim was to improve training in oncoplastic surgery in our department.

Methods: We devised and set up a dedicated Oncoplastic and Reconstructive Multidisciplinary Team Meeting in our breast unit which is based in a district general hospital. This forms part of our weekly Breast Academic Forum aimed to facilitate teaching and training of the breast surgery team juniors and to encourage discussion between consultant trainers. Other members of the MDT include breast care nurses and radiologists, Patients who are thought to pose an 'interesting' oncoplastic challenge on clinical review or are due to undergo reconstructive surgery are discussed at this MDT meeting. An MDT proforma was devised and a case presentation is prepared by the trainees with a review of the history, radiology and professional hospital photography. Discussion is centred on the challenges faced based on the patients' native anatomy and an emphasis on the patient's own wishes for surgery. Any postoperative complications are also discussed for learning points.

Results: 55 patients requiring oncoplastic and reconstructive techniques have been discussed on our Oncoplastic MDT. This has greatly facilitated training particularly concerning planning and decision making in oncoplastic surgery and knowledge in the process of requesting and ordering prosthesis and acellular dermal matrix.

Conclusion: We believe that all units involved in breast reconstruction and oncoplastic surgery should devise an Oncoplastic MDT as a forum to facilitate teaching and training in these techniques.

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P059. Imaging in the over 75s attending symptomatic breast clinics: Does everyone need a mammogram?

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Introduction: Mammography is performed in all symptomatic female breast referrals aged 40 years and over. If there is no palpable abnormality (P1) imaging is still performed which is effectively screening. Unlike the screening programme, there is no upper age limit for imaging these patients. The aim of this audit is to establish whether putting an upper limit of 75 years of age for patients with no clinical abnormality could have a detrimental effect on their care.

Methods: Patients aged 75 years and over attending the symptomatic breast clinic were indentified. Data was collected prospectively from three centres over a one year period (01/08/2012 to 31/07/13).

Results: 217 patients were identified (all female, mean age 81 years). 61 patients were found to have no abnormality (P1). 56 of these underwent imaging, of which 3 patients were found to have invasive malignancy. All the 3 patients went on to have primary endocrine therapy. The remaining 5 patients were either too frail, or did not cooperate with imaging and underwent no further investigation or treatment. Overall, 73 patients were found to have invasive malignancy following clinical and/or radiological suspicion. 63 of these patients were evaluated as P4 or P5 clinically.

Conclusion: The identification of treatable malignancy following P1 assessment confirms that placing an upper age limit for imaging patients over the age of 75 years attending symptomatic breast clinic and found to have no clinical abnormality could have a detrimental effect on the care of this group.

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P060. Implant loss rates within and after three months following surgery: Are new targets required?

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Introduction: The ABS Oncoplastic guidelines include set targets for outcomes following implant-based reconstruction (e.g. <5% for implant loss, return to theatre and unplanned readmission at 3 months)[1]. However, both prior data and our own experience suggest that complications frequently occur more than 3 months following reconstruction. A local audit was performed to assess whether the ABS targets captured all of our units complications.

Methods: A retrospective audit reviewed all implant-based breast reconstructions at the unit (2008-2013), specifically focusing on the details and timing of complications. Reasons for implant loss and subsequent interventional procedures were recorded.

Results:

Table A
Complication and implant loss rates.

Year	n. Implant procedures	n. Complications	n. Implants lost	% Lost outside 3 month period (n)
July 2008 onwards	5	2	0	-
2009	12	3	1	0
2010	9	6	2	0
2011	39	10	2	50 (1)
2012	63	14	4	25 (1)
2013 to 1st Nov	37	3	3	33 (1)
Total	165	38	12	25 (3)

Table B
Causes of implant loss.

Cause	n.	% Total implant loss
Infection	9	75%
Wound Failure	2	17%
Cosmesis/Capsule formation	1	8%
Total	12	100%

Conclusions: The ABS target fails to capture late complications (i.e. occurring > 3/12 post-op) such as implant losses. Our review highlights that late implant loss remains a significant problem (25% of reconstruction failure). Based on our audit, we suggest that the 3 month period used in the target is insufficient to capture late implant loss and suggest that this should be extended.

[1] Association of Breast Surgery & British Association of Plastic, Reconstructive and Aesthetic Surgeons; Nov 2012; Oncoplastic Breast Reconstruction: Guidelines for Best Practice; ed. Rainsbury D & Willett A

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P061. Microbiological spectra of micro-organisms associated with breast implant loss

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Introduction: ABS Oncoplastic guidelines for implant-based reconstruction set targets for implant loss, return to theatre and unplanned readmission at 3 months (<5%)[1]. Data from the National Audit (NMBRA 4th report) highlights challenges of achieving these targets (overall implant loss 9%). Infection is a major cause of implant loss, however there is little data from the United Kingdom to suggest causative organisms. Targeting prophylactic antibiotics to commonly occurring microbes may limit implant loss. Our current protocol is single-agent broad-spectrum single-dose prophylaxis.

Methods: A retrospective audit evaluated infection-related failures (i.e. implant-loss) following immediate breast reconstructions performed at Chelmsford Breast Unit (2008-2013). Microbiological cultures from infected wounds, or fluid at time of explanation were evaluated to indentify causative micro-organisms.

Results:

Name of Organism	Number of cases	% Of infections resulting in implant loss	Sensitivities
Staphylococcus aureus	5	56	Fusidic Acid, Gentamicin, Rifampicin, Tetracycline, Vancomycin, Flucloxacillin
Staphylococcus Spp	2	22	Gentamicin, Meropenem, Tazocin
Klebsiella	1	11	Co-Amoxiclav, Piperacillin/ Tazobactam, Vancomycin, Tazocin, Meropenem
Morganella	1	11	Gentamicin, Meropenem, Piperacillin/ Tazobactam
Corynebacterium	1	11	Unknown
Enterobacter cloacae	4	44	Gentamicin, Meropenem, Piperacillin/ Tazobactam
Unknown	1	11	Unknown

Conclusions: Staphylococcus Aureus accounts for approximately half of post-implant infections leading to reconstruction failure but which current prophylaxis should feasibly target (i.e. co-amoxiclav or flucloxacilin). However, Enterobacter was commonly observed and on this basis we suggest dual antibiotic prophylaxis with agents that cover gram positive, gram negative and anaerobic organisms.

[1] Association of Breast Surgery & British Association of Plastic, Reconstructive and Aesthetic Surgeons; Nov 2012; Oncoplastic Breast Reconstruction: Guidelines for Best Practice; ed. Rainsbury D & Willett A

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P062. Single centre breast reconstruction − What can be offered without microsurgery?

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Introduction: Publication of the ABS Oncoplastic Breast Reconstruction: Guidelines for Best Practice has established quality standards in breast reconstruction. This prospective audit evaluated the reconstructive service offered in Belfast City Hospital by three oncoplastic breast surgeons, with no on-site microvascular service. The aims were to determine the range of breast reconstruction procedures, compare complication rates with national quality standards and identify risk factors for post-operative complications.

Methods: Data was collected prospectively on all patients undergoing breast reconstruction following mastectomy over 18 months (Feb 2012 − Aug 2013). Patient factors, timing and details of surgery, and complications at 3 months were recorded.

Results: 161 patients had surgery on 201 breasts. 75 were delayed, 126 immediate. 38% of all mastectomies carried out in the period (n=239) had immediate reconstruction, 26% in the therapeutic group and 74% risk reduction. 60 pedicle autologous myocutaneous flaps (14 TRAM, 46 LD) were performed. 169 implant based reconstructions included 54 delayed and 87 immediate procedures. 12 implants were lost with a rate of 7.1% comparable to national (ABS and NMBRA) data. Each lost implant had at least one identifiable patient risk factor including diabetes, smoking, neoadjuvant chemotherapy, previous radiotherapy or obesity.

Conclusion: A wide range of reconstructive techniques are provided, with favourable outcomes compared with national standards. All core and most advanced oncoplastic techniques are offered, with the exception of free flaps. Continued prospective evaluation is planned, together with prospective collection of patient report outcome measures to evaluate patient satisfaction.

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P063. Axillary management in invasive lobular carcinoma: Do we need to re-evaluate the use of sentinel node biopsy?

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Introduction: Current NICE guidelines for early invasive breast cancer recommend patients without evidence of lymph node involvement on ultrasound should primarily undergo sentinel lymph node biopsy (SLNB).

Objective of this study was to determine any relationships between sentinel node positivity and tumour prognostic factors. Currently, no difference exists between axillary node management of invasive ductal carcinoma (IDC) versus invasive lobular carcinoma (ILC).

Methods: Retrospective analysis of axillary management in 265 patients who underwent treatment for invasive breast cancer was performed. Axillary imaging, fine-needle aspiration/core biopsy of tumour and nodes, surgical procedure, histology, number of positive nodes, whether SLNB was adequate when used, and any additional axillary treatment required were analysed.

Results: In the IDC group (195 cases), 92 patients had SLNB and, of these, 16.3% required additional axillary treatment. 12 patients had axillary node clearance and 3 had axillary radiotherapy.

In the ILC group (30 cases), 10 patients had SLNB and, of these, 70.0% required additional axillary treatment. 6 patients had axillary node clearance and 1 received chemotherapy.

This study demonstrates significant difference in requirement for further axillary management following SLNB in ILC compared to IDC (p=0.0004).

Conclusion: More patients with ILC appear to require additional axillary treatment following SLNB. This study suggests re-evaluation of axillary management in patients with ILC to reduce the need for a second operation.

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P064. Day case breast cancer surgery: Is it suitable for all?

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Background: There is an increasing drive to perform breast cancer procedures as a day case procedure. In our unit all patients having breast conserving surgery (BCS) with or without sentinel lymph node biopsy (SLNB) are performed as a day case whilst patients undergoing mastectomy ± SLNB/axillary node clearance (ANC) and BCS +ANC have a planned overnight stay. We assessed our patient's opinion on same day discharge following mastectomy ± SLNB/ANC and BCS +ANC.

Methods: All patients undergoing breast surgery, who stayed overnight between December 2012 and May 2013, were sent an anonymous questionnaire. These patients were reviewed on the first post-operative day by the Breast Care Nurse (BCN) and surgical team.

Results: 56 patients were sent a questionnaire with 41 patients responding (73% response rate). 17 patients underwent mastectomy with ANC, 14 patients had BCS and ANC and 10 patients had mastectomy ± SLNB. 83% of patients found overnight stay useful for providing a reassuring environment. No patients reported post-operative nausea or vomiting and 20% required additional opiate analgesia. 97% of patients found BCN consultation on the first post-operative day useful. 15% of patients undergoing mastectomy would have accepted discharge home on the same day compared to 43% of BCS patients.

Conclusion: Although we know breast cancer surgery is feasible as day case, our results suggest that patients undergoing breast surgery prefer an overnight stay, especially patients undergoing mastectomy.

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P065. Lymphoedema following axillary node clearance. Is it related to body mass index?

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Introduction: Lymphoedema causes significant morbidity with approximately 10% of patients severely affected following axillary node clearance. The aim of this study was to ascertain whether body mass index (BMI) is related to likelihood of lymphoedema.

Methods: Consecutive patients brought to lymphoedema clinic following breast surgery with axillary clearance had measurements taken for lymph volume ratio. Their notes were scrutinised for body mass index at the time of surgery, age, ethnicity, surgical procedure, tumour histology, number of nodes taken, nodal involvement, radiotherapy, chemotherapy and hormonal therapy. Statistical analysis was done comparing lymphoedema to BMI index.

Results: 114 patients' data were collated and divided according to BMI index < 18.5 (underweight - 1 patient), BMI 18.5 to 24.9 (normal - 24), BMI 25 to 29.9 (overweight - 40) and BMI > 30 (obese - 49). As there was only one underweight patient, she was excluded from the statistical analysis. The median lymph volume ratio was higher for the overweight (11.5) and obese groups (9.0) compared to the normal group (6.35). However, Kruskal-Wallis test between the three groups showed no statistical difference (p=0.898). Subsequent intergroup analysis showed no significant statistical difference between normal-overweight, normal-obese and overweight-obese.

Conclusions: Body mass index was not found to be associated with lymphoedema in our study. Further multivariate analysis is needed to assess other independent variables contributing to lymphoedema and reducing these factors to lower lymphoedema rate.

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P066. Assessment of technical skills in simulated oncoplastic wide local excision − Construct validity of procedure specific global rating scales

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Introduction: Simulation training enables safe deliberate-practice and facilitates technical skills assessment. Construct validity is the ability of the simulator to differentiate experienced from inexperienced surgeons. The aim was to demonstrate construct validity of an oncoplastic wide local excision simulator.

Methods: Twenty-nine surgeons (consultants = 5; specialty trainees = 14; core trainees = 10) performed a wide local excision of 25mm palpable breast lesion located 30mm from the nipple areolar complex in the 3^0clock position, on an in-house synthetic breast simulator. Procedures were videotaped (blind), reviewed and independently rated against procedure-specific global ratings of performance (VAS 0-100) by two expert breast surgeons. Specimen radiographs were obtained and macroscopic distance (mm) from "tumour" to resection margin in four cardinal directions was recorded. Specimen weights (g) and whether visible "tumour" was evident at the resection margin (Y/N) was recorded.

Results: Statistically significant differences in technical skills were revealed (Table 1). With the exception of the superior margin (KSW:X^2=6.10,p=0.047) no significant effect of operator grade was observed. A trend towards greater specimen weights [(median(IQR): cons = 42.40(18.03), spr = 39.40(22.45), core = 31.01(22.15),p=0.07] amongst senior surgeons was observed. Presence of visible "tumour" at resection margins did not discriminate expertise [crosstab: X^2=2.18,p=336].

Table 1

Category	Cons	SpR	Core	KSW (X^2)	p- Value
Exposure	90(10)	70(45)	35(50)	16.33	0.000
Flap quality	90(30)	80(45)	30(55)	20.31	0.000
Resection skills	80(50)	60(70)	45(40)	14.20	0.001
Remodelling	80(30)	80(15)	25(68)	16.45	0.000
Closure	90(30)	70(20)	40(38)	18.74	0.000

Conclusion: Technical skills assessment on simulated oncoplastic wide local excision is construct valid for procedure specific global rating scales and specimen weights but not for evaluation of macroscopic margins.

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P067. Micrometastatic disease in the Sentinel Node (SN) detected by One Step Nucleic Acid Amplification (OSNA) should not be ignored

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Background: Intra-operative assessment of the Sentinel Node is used in some institutions in the United Kingdom. However it has shown to detect a higher rate of micrometastases within the SN compared to other traditional methods. We report our experience of patients with OSNA detected micrometastasis in the SN and their subsequent axillary node clearance (ANC) status.

Methods: All patients undergoing SLNB in our institution have their SN assessed intra-operatively by OSNA. Patients who have a positive SN detected by OSNA, go on to have an ANC. All patients having a SLNB and OSNA assessment of the SN between August 2011 and September 2013 were included in this study.

Results: Of 375 patients, 119 patients had a positive SN (65 macrometastases and 55 micrometastases) detected by OSNA. In those with micrometastasis, 46 patients had an immediate ANC and 9 patients had no further axillary surgery. In the 46 patients who had an ANC, 6 patients (13%) had further disease detected within their ANC (4 macrometastases and 2 micrometastases).

Conclusion: Our study shows that micrometastatic disease detected in the SLNB by OSNA should not be ignored. 13% of our patients with micrometastasis on OSNA had further disease in their axillary nodes as detected by H&E staining. This data supports our policy of performing an ANC for patients with micrometastatic disease in their SN diagnosed with OSNA.

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P068. Long-term oncological safety of delayed breast reconstruction compared to a matched cohort of immediate reconstruction − A controlled study

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Introduction: Adequate timing of breast reconstruction has been widely debated. Unlike immediate reconstruction (IR), delayed breast reconstruction (DR) does not jeopardise adjuvant treatment, but it initiates surgical stress not infrequently after the systemic treatment finished. Hence, we compared DR to IR in terms of long-term oncological outcomes.

Methods: Consecutive patients underwent DR in the Canniesburn Plastic Surgical Unit in 2006 were analysed with a retrospective review of medical records. Oncological outcomes were compared to a previously published cohort of IR from the same unit. Patients only with the diagnosis of invasive breast cancer or DCIS were included irrespective of tumour stage.

Results: Data of 365 patients were analysed, and patients with incomplete follow-up or recurrent cancer were excluded. 107 patients with DR were compared to 207 patients with IR with similar median follow-up times of the two cohorts (DR: 112; IR: 119 months) from the time of diagnosis. Overall recurrence rates were almost identical: DR: 18.7% vs. IR: 18.8%. Locoregional recurrence rate was lower after DR (5.6%) compared to IR (8.2%). Overall survival rate was similar after DR (84.1%) and IR (88.4%).

Conclusion: Based on these long-term follow-up data, conventional mastectomy followed by DR and skin-sparing mastectomy combined with IR are oncologically equally safe treatment options, although the data need to be adjusted to tumour stages.

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P069. Does short-term pre- and post-operative endocrine therapy influence surgical outcomes? POETIC randomised controlled study − A single centre experience

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Introduction: Perioperative Endocrine Therapy - Individualising Care (POETIC) is a currently on-going national randomised trial that is looking at the effect of endocrine therapy 2 weeks before and 2 weeks after surgery in hormone-sensitive breast cancer. We reviewed patients recruited for the trial to see whether short-term therapy with letrozole influenced surgical outcomes.

Methods: Seventy patients enrolled on POETIC were identified from a prospectively entered trial database. The main outcome measures studied were sentinel lymph node (SLN) detection rates, cancer reoperation rates, hospital stay, complications and unplanned readmission following surgery.

Results: See Table 1.

Table 1

	Control Group (n=24)	Endocrine Therapy Group (Letrozole 2.5 mg once daily) (n=46)
Median age (range)	68 (55-83)	65 (52-83)
Percentage having mastectomy: WLE: Localisation WLE	25%: 50%: 25%	28%: 44%: 28%
Percentage requiring axillary clearance	33%	30%
SLN Identification rate	95% (19/20)	100% (46/46)
Percentage of patients receiving 1, 2 or 3 operations for cancer	71%:21%:8% (17:5:2)	78%:20%:2% (36:9:1)
Percentage of patients returned to theatre for complications	4% (1)	4% (2)
Percentage of patients requiring re-admission for complications	8% (2)	2% (1)
Median inpatient nights per patient (range)	1 (0-10)	1 (0-6)

Conclusions: Pre-and post-operative short term letrozole therapy does not seem to have an impact on early surgical outcomes.

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P070. Patients treated with oncoplastic breast conservation require more postoperative radiological imaging, consequent biopsy and outpatient clinic visit than patients who had simple wide local excision – A controlled study

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Background: Oncoplastic breast conservation surgery (OBCS) is a more complex, technically demanding surgical technique than simple wide local excision (WLE). Further, after OBCS it is more challenging to interpret postoperative surveillance imaging. Hence we compared number of postoperative imagings, biopsies and outpatient visits in patients treated with OBCS and simple WLE.

Methods: Consecutive patients treated with level II OBCS (n=84) were compared to patients who underwent simple WLE (n=319) in the same unit during similar period of time. Number of imagings, biopsies and outpatient visits were compared using student's t-test within the initial 24 months postoperative period. Difference was considered statistically significant when p value was less than 0.05.

Results: OBCS patients required significantly more postoperative ultrasound (OBCS:0.595[0-6] per patient vs. WLE:0.091[0-3];p<0.0001), MRI (OBCS:0.095[0-3] per patient vs. WLE:0.015[0-1];p=0.004), and breast biopsy (OBCS:0.44[0-3] per patient vs. WLE:0.019 [0-1];p<0.0001). Abnormal findings on postoperative imaging were also much more frequent after OBCS (0.143[0-2] per patient vs. WLE:0.012[0-1];p<0.0001). This required more clinic visits from patients who were treated with OBCS (4.583[0-13] per patient vs. WLE:1.99[0-7];p<0001). The total number of postoperative imaging was also higher after OBCS (mean 2.25[0-8] vs. WLE:2.01[7-1];p=0.0842).

Conclusion: More frequent postoperative breast ultrasound, MRI, and more common abnormal radiological findings, and consequent breast biopsies reflect the relative complexity as well as novelty of OBCS. Informed consent for OBCS should include the above facts and patients should be discussed that they are more likely to come often to the outpatient clinic and have radiological tests and biopsies after OBCS compared to simple WLE.

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P071. Intra-operative imprint cytology of sentinel lymph node: How many second operations are avoided?

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Introduction: Intra-operative testing of sentinel lymph node (SLN) is performed so that in patients with a positive SLN, axillary surgery can be completed in one sitting. However, a second operation may then become necessary to clear margins of the primary tumour. Our aim is to study how many second operations are avoided by intra-operative imprint cytology (IOIC).

Methods: We identified all patients who underwent IOIC over a 4-year period at our institution from a prospectively entered database and reviewed their details to see how many second operations were avoided.

Results: 307 patients were identified. Most had preoperative ultrasound +/- FNAC of axilla which was negative. IOIC was negative in 253, indeterminate in 8 and positive in 46 patients. All positive patients had axillary clearance in the same sitting but 8 patients needed further surgery later for close margins. 13 patients required a delayed axillary clearance for false negative/indeterminate imprint with positive SLN on histology.

Imprint cytology	Returned to theatre	
	Excision of margins/mastectomy	Axillary clearance
Negative (n=253)	31	11
Positive (n=46)	8	0
Indeterminate (n=8)	6	2
Total (n=307)	45	13

Conclusions: Intra-operative testing on 307 patients prevented 38 re-operations. A delayed axillary clearance was only required in 13 out of 307 patients. Recall for further surgery can be distressing to patients and axillary clearance after previous SLNB can be technically challenging.

Imprint cytology is neither costly nor time consuming thus we feel it is a worthwhile addition to breast cancer surgery even when the axilla is deemed negative on pre-operative ultrasound.

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P072. Patient-reported outcomes of breast reconstruction using implant and biomesh: Our experience

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Introduction: Breast aesthetics and patient awareness have made breast reconstruction an integral part of breast cancer surgery alongside mastectomy and breast conservation. Our objective was to evaluate patient-reported outcomes after immediate breast reconstruction (IBR) using implant and biomesh (Strattice).

Methods: In this prospective ongoing study, consecutive patients who had an IBR using implant and Strattice from February 2012 received a questionnaire 6 weeks post-surgery. Questionnaire included pre-operative, operative and post-operative outcomes including patient satisfaction, cosmesis, return to activity and complications.

Results: Between February 2012 and October 2013, 19 patients (2 bilateral, 14 Left, 7 Right) underwent single-stage immediate breast reconstruction with fixed volume profile implants and Strattice. Options of different reconstructive procedures were discussed along with specialist-nurse consultation. Unavailability of long-term data of using biomesh was clearly stated. One patient didn't reply. There were 5 ILC, 9 IDC, 2 Mixed, 5 DCIS with 16 ER-and 2 HER-2 positive cancers. NPI range was 2.2-5.8. Adjuvant-treatment included radiotherapy (3), chemotherapy (3), Herceptin (2).

Average hospital stay was 1.59 days (range 1-3 days). Return to light and normal activities was 2.24 and 5.57 weeks respectively.72% patients were comfortable with and 66.66% without bra. No lifestyle changes in 15. Complications included implant loss in two (one after 3 months), haematoma (1), seroma (3), distant metastasis (2). Eighteen would recommend reconstruction and 83% patients were very satisfied.

Conclusion: IBR using implant and biomesh is a good option in selected cases, considering less operating time, early recovery, return to normal activities and well-balanced patient reported outcomes.

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P073. Novel classification to facilitate recognition of breast cancer morphology on confocal endomicroscopy

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Introduction: National data suggests that a significant proportion of breast cancer patients require re-excision. Novel intra-operative visualisation tools may aid real-time assessment of cavity margin status. Our work demonstrated that breast cancer morphology could be visualised in real-time using confocal endomicroscopy (CE). This study assesses the ability of pathologists and surgeons to differentiate CE images of neoplastic from non-neoplastic breast morphology using a novel classification.

Methods: CE images obtained from 71 freshly excised, acriflavine-stained breast tumour and non-diseased sections from 50 patients were reviewed with two experienced breast pathologists. A classification based on description of CE morphology unique to normal breast tissue constituents, non-invasive and invasive disease was developed. Seventeen pathologists and surgeons underwent a pattern recognition training session based on this classification and subsequently, were subjected to objective assessment of 50 CE images while blinded to histopathology results.

Results: The mean sensitivity, specificity and accuracy for the detection of breast cancer for pathologists was 96% (range 88-100%), 92% (range 84-100%) and 94% (range 90-100%), respectively. Surgeons had a mean sensitivity of 97% (range 92-100%), specificity of 86% (range 68-96%) and accuracy of 92% (range 84-98%). Overall inter-observer agreement for pathologists was 'almost perfect', κ=0.82 (95%CI, 0.79-0.85); and 'substantial' for surgeons, κ=0.74 (95%CI, 0.70-0.78).

Conclusions: CE morphological features of breast cancer are objectively distinguishable from that of normal breast. There might be a potential role for the use of CE intraoperatively as an adjunct to current techniques for in situ detection of residual cancerous foci based on real-time cavity scanning.

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P074. Breast cancer detection rates in patients with B3 breast lesions: A 10 year retrospective review

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Introduction: B3 lesions comprise a heterogeneous group of breast lesions with an increased risk of subsequent breast malignancy.[1] Surgical excision of such lesions is being replaced by large volume core needle biopsy and 5 yearly mammographic follow up.[2] This study aims to establish the incidence, nature and timing of malignancy associated with B3 lesions, and to assess whether such mammographic surveillance programmes are appropriately targeted.

Methods: Retrospective, single large centre, review of all screen detected B3 lesions (identified on core or diagnostic excision biopsy) between 1995 and 2006.

Results: 131 B3 lesions were identified. Average age was 55 years (range 48-74). Each patient had a median of 4 follow-up mammograms (range 0-9). 8 cases (6%) subsequently developed breast cancer (7 invasive, 1 high grade DCIS). Median time-to-diagnosis was 5 years (range 1-15yrs). 3 patients were diagnosed after 1 year (all at the original site). 6/8 cancers were in the ipsilateral breast, but only 4/8 were at the same site as the index lesion.

Conclusions: The observed cancer detection rate of 6% is higher than expected for a screened population. However, in this cohort, subsequent cancer occurred either early, representing a failure of initial assessment, or much later, consistent with studies suggesting that the presence of B3 lesions are a risk factor for breast cancer development.[1] We propose a more appropriate and cost effective follow-up strategy of a single mammographic review at one year followed by return to the routine NHS breast screening programme, in conjunction with regular self examination.

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P075. Introduction of OSNA (One-Step Nucleic acid Amplification) in the intra-operative assessment of the sentinel node (SLN): The clinical impact

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Introduction: Whole node OSNA was introduced at our centre for intra-operative assessment of SLNs in December 2012. The aim of this study was to assess its impact on management of the axilla in clinically & radiologically node negative breast cancer.

Methods: All patients with micro- or macrometastases in the SLN underwent axillary clearance (ANC). Comparison was made between 2 groups: Group A; A cohort of 322 consecutive patients treated before OSNA was introduced (SLN biopsy, conventional histology and delayed ANC) and Group B; A subsequent cohort of 248 consecutive patients (SLN biopsy, intra-operative OSNA and immediate ANC). Detection rates of micro- and macrometastases were compared and their impact assessed in terms of ANC rates & additional nodal involvement.

Results: Patients in Group B had significantly higher positive SLNs compared to Group A.

	Histology (Group A)	OSNA (Group B)	P (Pearson Chi-square)
Positive SLN	19.3%(75/322)	44.1%(109/248)	<0.001
Macrometastases	82.6%	51.4%	<0.001
Micrometastases	17.4%	48.6%	<0.001

Further disease detection on ANC was significantly higher for SLN macrometastases compared to SLN micrometastases ($p<0.005$ Pearson Chi-square). Additional positive lymph nodes on ANC were found in 38.8% (Group A) & 48.1% (Group B) for SLN macrometastases and 16.7 % (Group A) & 9.4% (Group B) for SLN micrometastases respectively. No patient in either group had >3 nodes or level 3 involvement when ANC was undertaken for micrometastases.

Conclusions: ANC was performed more frequently following introduction of OSNA due to increased detection of micrometastases. Axillary clearance is no longer performed for SLN micrometastases in the Unit.

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P076. An initial review of a personalised survivorship follow-up programme for patients with early breast cancer: One size does not fit all

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Introduction: The frequency of clinical follow-up of early stage breast cancer patients varies between units. NICE and ABS Guidelines conclude available evidence cannot indicate an ideal frequency suggesting one fixed follow-up schedule might not meet all patients' needs.

The aim of follow-up is early detection of recurrence however, recurrence is most commonly detected by patients presenting symptomatically between visits. This supports 'on-demand' follow-up, reflecting National Cancer Survivorship Initiative recommendations to move away from a 'one size fits all' approach.

In 2010, our unit changed from scheduled annual clinician review to an on-demand 'survivorship' programme facilitated by the Breast Care Nurses (BCN). A physician review and Holistic Needs Assessment are performed before entry.

The aim of this initial review is to assess benefits of personalised follow-up, particularly the number and timing of patient contacts and subsequent clinic referrals.

Methods: Retrospective review of records from a random selection of 138 patients eligible to enter the survivorship programme between 11/2010 and 11/2012.

Results:

- 138 patients in survivorship programme for 11-35 months (126 completed more than 12 months)
- 73% contacted BCNs, 3% more than once
- Mean time of contact was 6 months (range 1-16 months)
- 23 unplanned clinic visits after contacting BCN, 4 radiology recalls, 2 symptomatic metastases referred via GP
- 156 routine clinic visits prevented by the new approach

Conclusion: Patients made contact at a variety of points. Overall, they required fewer clinic reviews than previously. This on-demand approach offers flexibility without increased clinic contacts.

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P077. Role of NF-kB as a prognostic marker in breast cancer: A pilot study in Indian patients

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The nuclear factor kB (NFkB) is a superfamily of transcription factors. Activation of NFkB signalling pathway leads to induction of target genes that can inhibit apoptosis, dysregulates cell cycle, promotes cellular invasion. It therefore, as a master regulator, contributes to tumorogenesis, inflammation and metastasis. It is hypothesized that study of a single factor, instead of multiple proliferative genes, can prognosticate breast cancer to same extent.

The aim of the study was to validate the use of NFkB as a prognostic factor in clinical practice.

A prospective study was conducted at the comprehensive breast service and Breast Cancer Research Unit, Institute of Post Graduate Medical Education and Research, Kolkata, India. The patients were divided into two groups, first group (Group A) comprised of 57 patients with primary breast cancer and second group (Group B) comprised of 54 patients of fibroadenomas. NFkB was measured in both groups by Western Blot technique using p65 protein of NFkB family. ER, PR and HER2 neu were measured by immunohistochemistry methods.

NF-kB was expressed in 71.8% of breast cancer patients while none of the Group B patients expressed it. NF-kB / p65 expression is significantly associated with large tumour size (>5 cm.) (p-value 0.012), Grade III tumours ($p=0.002$), ER and PR negative tumours ($p=0.002$ and 0.001 respectively) and HER2 neu positive tumours ($p=<0.001$).Correlation is poor with lymph node status (p0.393) and menopausal status ($p=0.973$).The results were correlated with NPI (higher NPI of more than 5.4 was statistically significant with $p=0.002$).

The study puts forward the fact that NF-kB is a valid prognostic marker. Being a transcription factor, it controls multiple pathways and thus has the potential to replace costly multigene prognostication models. This can have a major impact in developing countries in prognosticating breast cancer.

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P078. The "postcode lottery" for the surgical correction of gynaecomastia in NHS England

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Introduction: Despite *Action On Plastic Surgery* (AOPS) guidelines, NHS funding for gynaecomastia surgery varies between Clinical

Commissioning Groups (CCGs), leading to a "postcode lottery". We evaluated the extent of this "postcode lottery" for gynaecomastia surgery in England.

Methods: The gynaecomastia surgery policies for 211 CCGs were reviewed against the six AOPS criteria: post-puberty, BMI $\leq$ 25kg/m^2, breast cancer, endocrine and drug causes excluded and patient demonstrating psychological distress.

Results: Policies were available for 209 (99.1%) CCGs. CCGs were grouped according to their funding policies for gynaecomastia surgery:

- Group 1: if CCG criteria met, funding will be approved [60 (28.7%)]
- Group 2: if CCG criteria met, prior approval still required [85 (40.7%)]
- Group 3: no criteria, individual funding request only [44 (21.1%)]
- Group 4: no funding for any gynaecomastia surgery [20 (9.6%)]

Inclusion of AOPS criteria by CCGs in groups 1 and 2 are summarised by table 1. Additional non-AOPS criteria were stipulated by 36 (60.0%) and 72 (84.7%) CCGs in groups 1 and 2 (eg non-smoker, gross asymmetry, persistent pain, or resection>100g).

Table 1
Number (%) of CCGs applying each AOPS criterion

AOPS criteria	Group 1	Group 2
Post-puberty	54 (90.0%)	54 (63.5%)
BMI$\leq$25kg/m2	41 (68.3%)	62 (72.9%)
Breast cancer excluded	42 (70.0%)	33 (38.8%)
Endocrine causes excluded	49 (81.7%)	55 (64.7%)
Drug causes excluded	49 (81.7%)	59 (69.4%)
Psychological distress	4 (6.7%)	16 (18.8%)

Conclusions: There is a "postcode lottery" for NHS funding of gynaecomastia surgery in England. CCGs restrict surgery according to their own criteria rather than adopting the AOPS guidelines.

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P079. Audit evaluating the practice of sentinel lymph node biopsy in the South Tees Trust − North East England

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Introduction: Standard - The North East Cancer Network guidelines state no more than 4 lymph nodes should be retrieved at the time of sentinel lymph node biopsy (SLNB). Complications of axillary dissection include lymphoedema and chronic arm pain, hence steps should be taken to avoid unnecessary axillary surgery.

Number of sentinel lymph nodes retrieved during SLNB and adherence to the network guidelines was investigated.

Also investigated; whether patients with grade 1 or 2 cancer with only micrometastases to the sentinel lymph nodes could be spared further axillary clearance.

Method: ICE was utilised to obtain histological information on all patients who had undergone SLNB until March 2013.

Results: Out of a total of 619 patients, 175 patients had more than 4 nodes removed at the time of SLNB of which 55 patients subsequently underwent axillary clearance due to metastasis.

Metastasis to the sentinel lymph nodes was 10% more frequent with grade 3 breast cancer compared to grade 1.

There were 18 patients with grade 1-2 cancer plus micrometastases, 11 of which had axillary clearances revealing further nodal involvement in 1 case. 7 cases were spared axillary clearances.

Conclusion: There is variation in surgical practice between surgeons in the trust. SLNB in excess of 4 could not be justified in 19% (120) of cases.

Excessive removal of sentinel lymph nodes has been highlighted and needs tighter regulations.

There is not enough evidence to suggest foregoing axillary clearances for low grade cancers with micrometastases to the sentinel lymph nodes.

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P080. Guidelines for staging in breast cancer need to be defined to identify all those with metastatic disease pre-operatively

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Introduction: There is little consensus on the protocol for breast cancer staging. Our unit stages with CT and bone scans pre-operatively when there is ultrasound scan evidence of multiple lymph node involvement, and post-operatively in those in whom $\geq$ 4 lymph nodes contain metastatic cells. Additionally, patients are staged following MDT discussion based on clinical suspicion. The aim of this audit was to identify the frequency of positive findings on staging and the accuracy of our protocol and clinical suspicion in determining the risk of metastases.

Methods: Patients presenting between March 2012 and March 2013 were identified from the Breast Cancer Registry. Two patient populations were considered; those who underwent pre-operative staging (n=85) and also those patients who underwent operative axillary clearance (n=80).

The requests for pre-operative staging were considered with respect to the current local protocol. Patient age, disease presentation, surgical histology and imaging results were collated for patients staged both pre-operatively and post-operatively.

Results: 62 patients were staged pre-operatively as per protocol. 12 were requested on clinical suspicion alone; tumour >4cm (n=6), T4 tumours (n=2), constitutional symptoms (n=2), aged < 30 (n=1) and bilateral cancer (n=1). Of these, 3 patients (25%) were diagnosed with metastatic disease. Post-operatively, 6 patients were found to have $\geq$4 lymph nodes positive on axillary clearance but no evidence of distant metastases on subsequent staging.

Conclusions: The guidelines for staging in breast cancer need to be further defined as 25% of patients staged on clinical suspicion alone were found to have metastatic disease.

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P081. Development of a core outcome set for reconstructive breast surgery: The BRAVO (Breast Reconstruction and Valid Outcomes) study

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Introduction: Appropriate outcome selection is essential if research is to guide decision-making and inform policy. Systematic reviews (SRs) in reconstructive breast surgery (RBS) however, have demonstrated marked heterogeneity of outcome-reporting such that results from individual studies cannot be compared or combined. Developing core outcome sets (COS) - an agreed-minimum set of outcomes that should be measured

and reported in effectiveness studies – is one way by which this may be improved. The BRAVO study aimed to develop a COS for RBS.

Methods: A questionnaire was developed from a long-list of 148-outcomes generated from SRs and qualitative work. Outcomes were grouped into 6 categories (short-term/late-complications; symptoms; cosmesis; psychosocial and practical issues) and each domain operationalised.

Key stakeholders (patients, surgeons, specialist nurses and psychologists) were purposively sampled and sent the questionnaire asking them to prioritise each outcome on a nine-point Likert-scale.

Respondents were then sent a second questionnaire containing feedback on scores from Round-1 and asked to re-prioritise outcomes based on the feedback received to identify the final COS.

Results: 303 (51.4%) participants (215/434-patients;88/156-professionals) returned the initial questionnaire. Respondents included 215 patients from 3 centres receiving a full range of reconstructive procedures and 40 breast surgeons, 21 plastic surgeons and 20 specialist nurses.

255 (84.2%) participants reprioritised outcomes following feedback from round 1. Nine outcomes in 3 categories (cosmesis; psychosocial outcomes and complications) were consistently most important to all stakeholders.

Conclusions: The BRAVO Study has used robust consensus methodology to develop a COS for RBS. Widespread adoption of the RBS-COS by the reconstructive community will improve the quality of outcome assessment and reporting and the quality of decision-making in the future.

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P082. Evaluation of a novel technique in immediate implant reconstruction with a new shaped accelular matrix graft (Braxon®) placed on the pectoralis muscle in a subcutaneous plane

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Introduction: The traditional sub-pectoral placement of the implant to reduce capsular contraction is now assisted by ADM to achieve better ptosis. Evidence that ADM reduces capsular contraction around implants in subcutaneous planes now exists both in animal models and revisional surgery in breast augmentation.

Methods: We present the first reports of our initial experience of a new ADM assisted fixed volume reconstruction (Braxon®) where the implant wrapped in ADM is placed above the muscle in a subcutaneous plane.

Results: Our preliminary results show reduction in post-operative pain and capsular contracture with good cosmetic outcomes up to one year of follow-up. Early complications due to seroma resulting in implant loss in 2 of 13 implants have been resolved by a change to a thinner ADM (0.6mm) without preservatives, with windows in the ADM behind the implant on the muscle with no further complications (7 reconstructions). Updated experience will be presented.

Conclusion: Pectoralis preserving one-stage reconstruction with subcutaneous Braxon® appears to offer advantages with less post-operative pain, less contracture and good cosmetic outcomes. The learning curve will tell us if our experience provides the basis for a new dimension in the field of mastectomy and immediate implant-based reconstruction breast surgery.

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P083. Audit – Are patients with newly diagnosed breast cancer getting appropriate DEXA scans? A DGH experience

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Introduction: NICE guideline 80 – "Early and locally advanced breast cancer" states that patients with early invasive breast cancer (BC) should have baseline dual energy X-ray absorptiometry (DEXA) scan to assess bone mineral density (BMD) if they: are starting aromatase inhibitor treatment, have treatment-induced menopause or are starting ovarian ablation/suppression therapy. We audited the performance of a DGH against these guidelines with a target of 100% concordance.

Methods: During a 1 year period (01/04/12-31/03/13), 100 patients with a new diagnosis of BC were selected at random from the hospital coding database. We gathered information for these patients using electronic records, letters and imaging.

Results: All patients were female. Of these, 66 matched the criteria for early invasive BC. Of these 66 women, DEXA scan was indicated in 42: all were for aromatase inhibitors. Our audit found that only 15 patients underwent DEXA scans giving a compliance of 36%. One patient received a DEXA scan without meeting any of the indications.

Conclusions: The results of this audit show that our compliance with NICE guidelines was poor for DEXA scanning for patients diagnosed with early invasive BC. This in turn means that patients with low BMD at diagnosis of BC are being under diagnosed and under treated, potentially resulting in increased morbidity associated with fragility fractures. The recommendations from this audit are: dissemination of these results, posters summarising the guidelines to be put up in breast clinics and breast MDTs to increase compliance. We aim to re-audit after these changes have been embedded.

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P084. Evolving practice towards day surgery mastectomy

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Introduction: Reducing inpatient length of stay (LOS) for patients undergoing mastectomies is marker of good practice. Mastectomies rate has often been audited with average 40% national rate becoming another marker of good practice. Objectives of this study were to evaluate rate of mastectomies performed as primary therapy for breast cancer and average LOS in a Breast Unit.

Methods: Relevant information data were obtained from operating book and Electronic Patient Record System. Data was collected for one surgeon at a symptomatic breast unit for the calendar years 2012 and 2013. These included: mastectomy indications, LOS, rate of drain use, seroma aspirations, complications and re-admission.

Results

	2012	2013
Total No. Mastectomies	38	26
Mastectomy (Primary) Rate	33/62 (53%)	20/62 (32%)
Day Case Mastectomies	0%	35%
Average LOS (Nights)	1.13	0.69
Drains	100%	50%
Seroma aspiration	87%	81%
Haematoma, infection, re-admission	0%	0%

Mastectomy indications (64 patients) 2012/ 2013:

Size/multifocality	43 (67%)
Patient Choice	7 (11%)
Incomplete WLE	5 (8%)
Local Recurrence	2 (3%)
Progression/Primary Hormonal Therapy	3 (5%)
Prophylactic	4 (6%)

Conclusions: All mastectomies in 2012/2013 were performed for appropriate clinical reasons. Rate of mastectomies have reduced below the national average of 40%. LOS has reduced and day case mastectomies have increased significantly. This may correspond to drain free surgery and addressing patients' concerns about safety. There is no evidence of anticipated increased seroma. Addressing perception/concerns of patients and surgeons alike of day surgery mastectomies remains key. Patient selection should however be strengthened not minimised to ensure safety.

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P085. The tissue factor-thrombin pathway is upregulated in cancer associated fibroblasts in aggressive breast cancer phenotypes

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Background: The thrombin (extrinsic) clotting pathway is upregulated in cancer, and correlates with poor prognosis. The coagulation factors thrombin and tissue factor (TF) promote tumour progression through protease activated receptors PAR1 and PAR2 respectively.

Aim: To determine if tumour expression (epithelial and fibroblast) of a procoagulant phenotype is associated with aggressive breast cancer phenotypes and reduced survival.

Methods: Tumour expression of TF, thrombin, PAR1 and PAR2 were determined by immunohistochemistry in two cohorts.

Prospective cohort study: Early invasive breast cancer (n=182).

Post-hoc analysis of archived tissue: Invasive breast cancer patients (n=84) from 2001/02 study with median follow-up time of 69 months (range 4 to 91 months).

Procoagulant phenotype expression was correlated with tumour grade, proliferation (Ki67), ER and HER2 status (both cohorts), survival and recurrence (archived tissue cohort).

Results:

Prospective study Epithelium: TF expression was increased in ER positive ($p=0.01$) and low tumour grade cancers ($p=0.02$).

Fibroblast: Fibroblast TF and thrombin expression was increased in HER2 positive cancer ($p<0.01$, both) and correlated with increasing Ki67 (proliferation marker, $p<0.001$, both). In addition, TF was increased in ER negative ($p=0.02$) and high grade cancer ($p<0.001$). PAR1 and PAR2 correlated with KI67 and were increased in high grade cancer ($p<0.01$, all). PAR 1 expression was increased ($p<0.01$) in ER negative cancers. PAR2 showed a trend for increased expression in ER negative ($p=0.1$) and was increased in HER2 positive cancer ($p<0.01$).

Archived tissue: Fibroblast: PAR1 expression was higher in ER negative ($p<0.01$) and PAR2 in HER2 positive cancer ($p<0.01$). Raised PAR1 fibroblast expression was associated with reduced overall ($p=0.02$) and recurrence free ($p=0.07$) survival.

Conclusion: Fibroblast (but not epithelial) thrombin pathway upregulation is associated with aggressive invasive breast cancer phenotypes (ER negative, HER2 positive, high grade and high Ki67 expression) and reduced survival. The thrombin pathway may represent a novel therapeutic target, particularly in ER negative/HER2 positive breast cancer

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P086. Aggressive breast cancer phenotypes (ER negative, HER2 positive) demonstrate an upregulated thrombotic response to surgery

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Background: Surgery induced activation of coagulation is upregulated in cancer as illustrated by a 3-fold increased risk of venous thromboembolism following cancer surgery compared to similar benign surgery. Systemic markers of thrombosis (e.g. d-dimer) are in increased in cancer and correlate with advanced stage.

Aim: In a prospective study, to determine if surgery induced activation of coagulation is upregulated in breast cancer and particularly in aggressive breast cancer phenotypes.

Methods: Plasma thrombin pathway markers Tissue Factor (TF), thrombin-antithrombin (TAT) and d-dimer were measured (ELISA) preoperatively and at days 1 and 14 following surgery for early invasive breast cancer (n=222), DCIS (n=48) or benign breast disease (n=10). Plasma thrombin markers were compared in invasive cancer, DCIS and controls. In invasive cancer, markers were correlated with lymph node metastases, ER and HER2 receptor status, Ki67 and tumour grade.

Results: As expected, plasma d-dimer increased following surgery and was higher at days 1 and 14 compared to pre-operative levels ($p<0.01$). There was no post-operative rise in TAT or TF. After adjusting for confounding factors (e.g. operating time, axillary surgery, tumour stage) d-dimer was higher at all timepoints in invasive cancer vs control ($p=0.04$) or vs DCIS ($p<0.001$) but not in DCIS vs control ($p=0.3$). In addition, the increase (from baseline) in d-dimer following surgery was more pronounced at day 14 in invasive cancer vs DCIS ($p=0.04$), implying a more hypercoagulable response to surgery. There was no difference in TF or TAT between invasive cancer, DCIS or control. In invasive cancer, plasma TF ($p=0.02$) and TAT ($p=0.03$) were higher at all timepoints in ER negative vs ER positive cancer. Plasma d-dimer was higher at all timepoints in HER2 receptor positive vs HER2 negative cancer ($p=0.04$). The increase in d-dimer postoperatively, as a response to surgery, was greater in ER negative vs ER positive cancers ($p=0.03$). There was no association between systemic markers and nodal status, tumour grade or Ki67 expression.

Conclusion: The hypercoagulable response to breast surgery is upregulated in the presence of invasive cancer. The hypercoagulable response is particularly marked in poor prognosis phenotype cancers (ER negative, HER2 positive). This may have implications for thromboprophylaxis and potentially for future targeted therapy of the thrombin pathway in cancer subtypes resistant to conventional therapies.

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P087. Tissue factor inhibition downregulates breast cancer stem-like cell activity in vitro and may represent a novel therapeutic target

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Introduction: Tissue Factor (TF) is a transmembrane protein that initiates coagulation. TF-mediated signalling promotes tumour growth,

migration and angiogenesis. Cancer stem-like cells (CSCs) are a subpopulation of cells that have the unique ability to self-renew and initiate tumours. Cancer cells with increased expression of CSC markers have increased TF activity. We sought to determine TF's role in regulating breast CSC activity in vitro.

Methods: Human breast cancer cell lines MDAMB231 (high TF expressing) and T47D and MCF7 (low TF expressing) were used. Cells were grown in non-adherent culture for 12 hours to select for anoikis-resistant cells and enrich for CSC activity. TF expression was determined in anoikis-resistant and control cells.

Measurement of CSC activity: CSC activity was measured using the mammosphere colony assay and by measurement of ALDH1 activity (CSC marker) using fluorescence-activated cell sorting (FACS). CSC activity was determined in: (i) T47Ds sorted according to TF expression into TF positive and TF negative cells using FACS, (ii) MDAMB231s and T47Ds in the presence of TF inhibition with transient silencing RNA (siRNA) and stimulation with recombinant factor VIIa (FVIIa, TF agonist), (iii) MCF7 cells stably transfected with TF (MCF7-TF) and compared to wild type cells (MCF7-WT).

Results: TF expression (western blot) was increased in anoikis resistant T47Ds vs control. When sorted by FACS, TF expressing T47Ds had increased mammosphere formation ($p<0.01$) vs TF negative cells. TF siRNA reduced mammosphere formation in MDAMB-231 ($p=0.05$) and T47Ds ($p<0.01$). ALDH1 activity was inhibited by TF siRNA in MDAMB-231 (0.09) and T47Ds ($p=0.05$). FVIIa increased mammosphere formation in MDAMB-231s ($p=0.05$) and T47Ds ($p<0.001$) in a dose-dependent manner. FVIIa increased ALDH1 activity in T47Ds ($p=0.01$). The effects of FVIIa on mammosphere formation was abrogated by TF siRNA in T47Ds. Mammosphere formation ($p<0.01$) and ALDH1 activity ($p=0.04$) were higher in MCF7-TF cells vs MCF7-WTs.

Conclusion: Breast CSCs (in vitro) demonstrate increased activity when selected for high TF expression, when induced to overexpress TF, and when stimulated (with FVIIa). Targeting the TF pathway in vivo may abrogate CSC activity, and potentially inhibit breast cancer recurrence.

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P088. Breast care clinical nurse specialist led follow up for patients who have undergone breast cancer surgery and have annual mammography

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Aim: Patients have annual mammograms for six years post diagnosis of breast cancer, they are seen within one hour of having their mammograms by a clinical nurse specialist, for clinical examination, results of mammography and follow up. The aim of the study was to evaluate whether patients were satisfied with the service or whether the process was more stressful than returning two weeks later for the results at a further appointment and whether they would prefer to see a doctor rather than a nurse.

Method: The data was collected via questionnaire completed by the patient after they have attended for the follow up visit. All responses were anonymous.

Results: Data was collected for one month in September 2013, 100 questionnaires were completed. This included patients who had undergone wide local excision, mastectomy +/− reconstruction of the breast. 100% of patients were very happy to be seen by a breast care specialist nurse. 100% of patients valued the service and found it less stressful having one visit to the hospital and receiving the results on the same day, 96% felt that any concerns were addressed at the consultation, 4% had no concerns.

Conclusion: Receiving mammogram results within one hour of having the mammogram significantly reduces level of anxiety in patients and seeing a breast care specialist nurse results in a very high level of patient satisfaction.

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P089. The impact of fat transfer on patient follow-up following breast conserving surgery

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Introduction: Fat transfer (FT) is a technique that has gained popularity in breast cancer patients to help correct deformities following breast conserving surgery (BCS). There have been concerns that its use can interfere with interpretation of subsequent mammograms. We sought to examine whether its use had an adverse effect on patients' follow up after BCS.

Methods: Retrospective data analysis was performed for patients, who had BCS with subsequent FT between June 2009 and Sept 2012, by reviewing patient notes and electronic imaging reports, at Queen Alexandra Hospital, Portsmouth. All patients who had clinical or radiological abnormalities following the procedure were identified.

Results: 29 patients underwent FT following BCS with 48 procedures performed. 4 patients were lost to follow-up. Mean average follow-up period was 37 months.

On follow-up mammography there were no suspicious lesions seen. 1 mammogram showed oil cysts and 1 required compression views.

56% (14/25) patients presented with clinical lumps requiring ultrasound assessment. 4 of these patients had 2 different lumps. Ultrasound of 18 lumps were reported on a scale. 2 were reported U3, 15 U2 (fat necrosis) and 1 U1. 61% of lumps were sampled- 5 Aspirations, 5 Core Biopsies and 1 Excision Biopsy. All results were consistent with fat necrosis.

No patient had local recurrence.

Conclusions: Fat transfer does not seem to interfere with surveillance mammography following BCS. However, the subsequent incidence of fat necrosis causing a lump is over 50%, but should not deter investigation to exclude local recurrence

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P090. Is it necessary to examine perinodal fat by histology in patients undergoing sentinel lymph node biopsy (SLNB) by one step nucleic acid amplification (OSNA)?

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Introduction: NICE guidelines now recommend One Step Nucleic Acid Amplification (OSNA) as an intraoperative assessment tool for the detection of sentinel node metastases in breast cancer. Fat needs to be trimmed from the sentinel node for OSNA assay. We have been assessing the excised fat histologically. The aim of this study was to analyse the results of this additional examination.

Method: Our hospital introduced OSNA in 2012. Histological findings in perinodal fat analysis in patients having OSNA from November 2012 to October 2013 were collected and analysed utilising the pathology database.

Results: 179 perinodal fat samples from 179 SLNBs were analysed. 32 out of 179 (17.9%) SLNBs were OSNA positive for macrometastases and 147 (82.1%) were OSNA negative (n=117) or had micrometastases (n=30). 2 perinodal fat specimens out of 32 (6.25%) from OSNA positive samples showed presence of malignant cells in lymphoid tissue fragments without evidence of genuine extranodal spread. The perinodal fat from the 147 OSNA negative cases or micrometastases showed no abnormality. Although extranodal spread was seen in 4 out of the 32 axillary clearance specimens following identification of OSNA positive macrometastases, none of them demonstrated extranodal spread in the sentinel node perinodal fat.

Conclusions: The results suggest that only perinodal fat from OSNA positive nodes should be submitted for histological examination. It is not necessary to examine fat from nodes which are negative or contain micrometastases on OSNA assessment. By sending the perinodal fat for

histology selectively, there are significant implications on time and cost of pathology services.

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P091. Touch imprint cytology of axillary sentinel lymph nodes in the management of breast cancer: An evaluation of efficacy

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Introduction: Axillary lymph node status is an important prognostic factor in the management of breast cancer. Axillary sentinel lymph node biopsy is recommended to avoid patients undergoing unnecessary axillary dissection due to the morbidity associated with this procedure. Intra-operative assessment of sentinel lymph nodes by Touch Imprint Cytology (TIC) has been performed in our non-screening breast unit with the aim of reducing the need for repeat surgery and general anaesthetic in those who have tumour-positive sentinel lymph nodes. A single procedure has benefits for both patient and the institution.

Methods: Pathology records for 67 patients who underwent TIC were reviewed retrospectively to compare the intra-operative TIC and final histology results from the sentinel lymph nodes retrieved during surgery.

Results: 69 sentinel node biopsies were performed in 67 patients. There were no false-positive TIC results, giving a specificity of 100%. The sensitivity was 42.9%. 6 patients (9%) had an axillary dissection as part of their primary procedure following the TIC result and were spared a second operation. Of the 8 false-negative TIC cases, only 3 (4.5%) patients were recommended further axillary surgery by our MDT Meeting.

Conclusion: These data correlate with those already published within meta-analysis, but evaluation of the cost-effectiveness of TIC must take into account the sensitivity of the method. Furthermore, future guidelines may render a policy of automatic axillary dissection obsolete in patients with low-burden tumour-positive axillae.

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P092. The practice of removing 'suspicious' non-sentinel lymph node during axillary staging: A local audit

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Introduction: NICE recommends using a dual technique for axillary sentinel lymph node (SLN) localisation. Our unit has used radioisotope (technetium^{99}-labelled nanocolloid) alone to identify SLN following successive cases of anaphylactic reaction to blue dye. Additional non-SLNs are occasionally removed based on clinical suspicion. We evaluated our practice in this audit.

Methods: A retrospective review was conducted on all SLN biopsies performed between April 2010 and March 2013. Cancer registry, case-notes and histopathological reports were cross-referenced for data collection.

Results: A total of 542 SLN biopsies were included. The overall mean number of SLN excised was 1.77 (1-8). The SLN metastasis rate was 21.6% and all these patients were offered completion axillary dissection.

In 291 cases SLN alone were removed during surgery. SLN and non-SLN were excised in 236 cases. These were subdivided into:

	n	Mean number of SLN (range)
SLN positive, non-SLN positive	21	1.85 (1 - 4)
SLN positive, non-SLN negative	34	2.08 (1 - 4)
SLN negative, non-SLN negative	173	1.65 (1 - 7)
SLN negative, non-SLN positive*	8	1.12 (1 - 2)

Radioisotope localisation failed in 15 cases (2.7%). These patients underwent axillary sampling or dissection.

Discussion: Eight patients (1.5%) were found to have metastases in non-SLN when their SLN was negative. This cohort appeared to have a lower number of SLN excised. However, the removal of non-SLN has not added any diagnostic advantage in the remaining cases, and the long-term morbidity possibly incurred remains unclear. We therefore conclude that the practice of removing 'suspicious' non-SLN should be discouraged.

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P093. A safe approach to the secondary care assessment of breast pain

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Introduction: Breast pain is a common complaint that almost all women suffer at some point in their lives. Although it is recognised that a small percentage of women with breast cancer experience pain, it is not an indicator for urgent referral (NICE 2005). Mammographic assessment of breast pain in the absence of other findings is not universally but frequently performed. Here we present an alternative pathway for referrals based on our institutions data.

Methods: Data was collected by random sampling of the clinic records of patients referred to the one stop breast clinic over a 1 year period. Partially incomplete records were rejected. Clinic proforma were corroborated by interrogation of computer based pathology and PACS imaging reports.

Results: 591 records were included. The isolated symptom of pain (unilateral + bilateral) was the presenting complaint in 21%. 76% of these were documented as 2ww referrals. 97% received "one-stop" imaging and the highest clinical or radiological score in this group was 2. Symptomatic breast pain referral resulted most frequently (88%) in a diagnosis of "normal breast" or "benign breast pain". A total of 38 cancers were identified in the overall data sample, none of which presented with pain.

Conclusions: 21% of one stop referrals could be managed via an alternative pathway separate to the one-stop clinic and 2ww. We propose triaging breast pain alone in to a 4-6 week pathway with separated clinical and radiological assessment. In our sample this would safely reduce the pressure on one-stop assessment by a fifth.

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P094. Rate of sentinel node positivity following OSNA and results of follow-up axillary node clearance

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Introduction: We use One-Step Nucleic acid Amplification (OSNA) for assessment of sentinel lymph node biopsies (SLNBs) in breast cancer. Axillary node clearance (ANC) is carried out after wide local excision if $\geq$1 macrometastases are present on SLNB, and after mastectomy if $\geq$1 macro- or micrometastases are present on SLNB. We compared the results of OSNA SLNB with follow-up ANC, to assess whether OSNA was predictive of ANC result.

Methods: A retrospective search found 261 patients who underwent OSNA for breast cancer, between 1/11/12 and 31/10/13. 188/261 had OSNA without ANC, and 73/261 had OSNA plus ANC. We recorded specimen type, tumour type/grade/size, number of LNs assessed, OSNA result, and ANC result.

Results: 121/261 (46.4%) were positive on OSNA. 80/121 micrometastases only, and 41/121 macrometastases $\pm$ micrometastases. 72 had positive OSNA and also underwent ANC. 18/72 (25%) had metastases on ANC. 31/72 patients had only micrometastases on OSNA, and 1/31

(3.2%) had metastases on ANC. 41/72 patients had macrometastases ± micrometastases on OSNA, and 17/41 (41.4%) had metastases on ANC. On comparison with national data, we had a higher proportion of micrometastases. We also compared the result to a previous study carried out here prior to the introduction of OSNA, and SLNB positivity has increased from 21% to 46.4%.

Conclusions: There has been a marked increase in SLNB positivity, and the rate is higher in Liverpool than in the UK overall. There is a high rate of ANC positivity if macrometastases are found on OSNA and a very low rate if only micrometastases are found.

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P095. Is sentinel node biopsy necessary in patients undergoing mastectomy for DCIS?

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Introduction: NICE guidance recommends patients have sentinel node biopsy (SNB) if they are having mastectomy for ductal carcinoma in situ (DCIS)[1]. DCIS requiring mastectomy undergo SNB as an invasive component may be identified on final histology and cannot be performed once the breast is removed. The aim of this study was to review the histology of mastectomy specimens and the number upstaged to invasive disease. The number of positive sentinel nodes following SNB was also recorded.

Method: The Somerset cancer database was searched to identify these patients treated over a four year period. Data collected included core biopsy, final histology, size of DCIS and/or invasive component, SNB and subsequent axillary clearance results.

Results: Thirty-two patients had a mastectomy for DCIS. Nine (28.1%) had an invasive component. 93.8% (30) had negative SNB, 7 of these patients had an invasive component (1 grade 1, 6 grade 2). Mean size of DCIS 42.8mm. Mean size of invasive component 29mm. Two patients had positive SNBs (2/8 and 1/16 after clearance). Both had grade 3 invasive disease.

Conclusion: SNB for pure DCIS is controversial but cannot be performed after mastectomy. Other studies have identified 0%[2] to 12%[3] positive SLNs in patients with DCIS. Despite small sample size, this study supports the use of SNB in patients undergoing mastectomy due to the upstaging to invasive disease.

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P096. A review of the assessment of male breast patients, with special reference to the use of imaging with digital breast tomosynthesis (DBT) and sonography

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Background: With the increase trend in gym use and the widespread use of protein-shakes and muscle bulking enhancements, the number of referrals of men with 'breast lumps' has increased. In addition statins are now widely prescribed and this also has resulted in a surge of referrals to the male breast clinic. A review of the benefit of imaging and intervention was undertaken to assess whether resources are being utilised effectively.

Methods: A retrospective review identified 132 male patients seen within a 2 year period. The following data was collected; age, patient history, presenting symptom, drug history, investigations, imaging, biopsy results, follow-up and management plan. The data was analysed and recorded.

Results: 132 consecutive patients identified with an age range of 16 to 84 years, with a small peak at 20-30 years of age and then the largest peak at 60-69 years (25% of the cohort fell within this group). The commonest presenting symptom was a lump (64%), while 22% presented with tender swelling. 77.27% (102/132) had DBT performed, of which 6.86% (7/102 were indeterminate or malignant). Of the 7 abnormal mammograms (age range 49-84), 4 were biopsied and confirmed gynaecomastia, 2 represented invasive ductal carcinoma and 1 intracystic papillary carcinoma. There were 4 cancers (3.03%) in the total cohort, a metastatic deposit in the breast from a renal cell carcinoma was mammographically occult.

100% of the cohort were imaged sonographically. 71.97% (95/132) were diagnosed with gynaecomastia. 58.33% were discharged. Blood tests were requested on the whole cohort and 16.67% (22/132) had abnormal results, 10 of which required further follow-up or tertiary referral to endocrinology. 3.8% (5/132) had surgical treatment for gynaecomastia.

Conclusions: Sonography and clinical examination appeared to be more sensitive than mammography in this cohort of patients. This coupled with our findings that indeterminate imaging was more prevalent over 50 may indicate that mammography may be more sensitive in men over 50.

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P097. Does therapeutic mammoplasty reduce demand for mastectomy & immediate reconstruction?

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Introduction: Therapeutic mammoplasty (TM) is increasing in popularity as a method for enhancing breast conserving surgery. Studies have shown it is oncologically safe, whilst improving cosmetic outcome. TM has been gaining popularity in West of Scotland over the past five years. Initially it was thought this may reduce requirement for mastectomy and immediate reconstruction. We have recorded type of surgery patients would have required had they not been suitable for TM, looking at changing demographic of surgical workload.

Methods: Prospective data collected about patients undergoing TM in West of Scotland since 2011 in Victoria Infirmary, Western Infirmary and in Lanarkshire. We reviewed clinical indications for TM, surgical alternative, Body Mass Index (BMI) and smoker status.

Results: 79 patients were identified. In 67 cases, alternative surgical option of mastectomy or standard conservation was recorded. Mean BMI was 29. 41% of patients had contralateral surgery for symmetry at the same time. In 28 cases (35%) TM avoided need for mastectomy. In 39 cases (49%) it was felt that cosmetic result would be improved by TM compared with standard conservation. During the study period, rates of mastectomy with immediate reconstruction as a proportion of total number of treated cancers have remained similar.

Conclusions: Whilst introduction of TM in our region has improved options offered to patients and likely cosmetic outcomes, it has not had a major impact in reducing mastectomy rates or demand for immediate reconstruction. It has probably increased surgical workload of plastic surgeons as these cases are often performed as joint procedures.

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P098. The impact of One-Step Nucleic Acid Amplification (OSNA) on the identification and management of micrometastases in the axilla

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Background: Axillary lymph node status remains the most important prognostic factor in breast cancer. Management of sentinel lymph node (SLN) micrometastases is controversial and there is emerging evidence supporting axillary sparing. NICE now recommends OSNA for intraoperative assessment of SLNs. We adopted this technology in November 2012. In this study we wanted to assess the impact of introducing OSNA on detection rates of micrometastases and its implications on further axillary treatment.

Methodology: A retrospective review of patients with micrometastases over a five-year period (January 2009 - December 2013) was undertaken. Data regarding demographics, presentation, tumour characteristics, SLN detection, micrometastases and subsequent axillary node clearance (ANC) were collected from the pathology database (pre-OSNA) and our OSNA database.

Results: Seventy-six patients with micrometastases were identified. Seventy-five (98.7%) were women; average age was 59.5 years (32 − 84). Thirty-three (43.4%) were screen-detected. Thirty-four (44.7%) underwent ANC. In the 4 years preceding OSNA, a total of 36 patients were detected with SLN micrometastases (9/year) in contrast to 40 patients in the year OSNA was adopted (40/year) despite a stable annual case volume. Prior to introduction of OSNA, further axillary metastases were found in 30.7% of ANC specimens compared to 12.5% in the OSNA era.

Conclusion: In our cohort the detection rate of SLN micrometastases using OSNA is much higher than by using conventional histopathology whilst the rate of further axillary involvement is considerably lower. There is therefore an argument to avoid ANC in patients with micrometastases identified by OSNA.

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P099. Internet access in patients attending a one-stop breast clinic

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Introduction: Using internet as a source of information on breast diseases has become increasingly popular. There is yet a comprehensive study on the effect of internet on patient presentation in one-stop breast clinics. This study examines the relationship between internet access, clinical presentation and cancer diagnosis in a teaching hospital.

Method: All new patients seen in the breast clinic by one of the breast surgeons between August 2010 and June 2011 were included and divided into 2 groups: direct internet access (DIA) and no direct internet access (NIA). Correlations between internet access and history of breast lumps, presence of true lumps, and cancer diagnosis were analysed with Person's Chi-Square test and Student's t-test.

Result: 564 patients were included: 77.5% (n=437) in DIA and 22.5% (n=127) in NIA group with a mean age of 43.2 and 63.3 years respectively. 70.3% (n=307) of DIA and 54.3% (n=69) of NIA patients complained a lump (P=0.001); out of those 63.0% (n=191) of DIA and 46.4% (n=32) of NIA did not have true lumps (P=0.014). 46 patients were diagnosed with cancer: 3.9% (n=17) of DIA and 22.8% (n=29) of NIA. In the above 60 age group 31 had cancers: 10.8% (n=5) of DIA and 36.6% (n=26) of NIA (P=0.02).

Conclusion: Patients with direct internet access were more likely to seek medical attention with breast lumps. However, the majority did not have true lumps. Internet access did not aid the diagnosis of breast cancer regardless of age.

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P100. Consecutive 75 cases of mastectomy for breast cancer using ultrasonic dissection and without drain: Quilting reduces seroma formation

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Introduction: Seroma is a common occurrence after mastectomy and repeated aspiration of it is associated with infection and financial implication for the NHS and negatively affects the patient experience. Various strategies are described to reduce seroma including quilting, ultrasonic dissectors and fibrin glue. This study was performed to assess whether quilting (progressive tension sutures) reduces seroma rate after mastectomy.

Methods: We compared 74 consecutive cases of mastectomy performed without drains by a single surgeon with ultrasonic scalpel; initially without and then with quilting using continuous fine absorbable suture (3-0 Biosyn)

Results: In the first 43 patients (28-87years) no quilting was done (SLN15 & ANC28; day-case 7%) and in the second group (31-90years) quilting was done in 31 patients (SLN17 & ANC14; day-case 35%). Both groups were comparable for age, BMI, hypertension, weight of breast and histological grade & stage.

In the quilting group seroma formation requiring aspiration was significantly lower (6/31, 19%; average volume 320cc) as compared to the non-quilting group (31/43, 72%; average volume 556cc) including 1 delayed infection after repeated aspiration. The length of stay was less in quilting group (0.76 versus 1.1 days).Incidentally 3 patients who had interrupted stitches developed seroma in the quilting group and 2 patients were on clexane/clopidogrel.

Conclusion: Quilting is a simple yet cost effective way of reducing seroma, improving patient experience and reducing number of hospital visits.

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P101. Delayed-immediate breast reconstruction with temporary subcutaneous implants − What is the rate of implant loss and does it impact on adjuvant therapy?

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Introduction: Delayed-immediate breast reconstruction (DIBR) describes the technique of inserting a temporary subcutaneous implant at the time of mastectomy, allowing preservation of the skin envelope prior to adjuvant therapies, ultimately completed with a definitive reconstruction. It can be indicated when the need for adjuvant radiotherapy is calculated to be likely and can achieve some of the cosmetic benefit of immediate reconstruction.

The aim of this study was to assess implant loss rates and potential delays to adjuvant therapies.

Methods: Theatre records were interrogated to identify patients undergoing mastectomy and DIBR between 1st November 2008 and 31st October 2013. Electronic and paper patient records provided information regarding complications and timing of adjuvant therapies.

Results: 31 patients underwent 37 DIBRs during the specified period. 7 implants were removed unplanned from 6 patients. 4 implants were removed prior to radiotherapy in 3 patients due to infection, giving an implant loss rate due to infection of 10.8% (4/37). 3 implants were removed for pain/discomfort in 3 patients, 1 of these following radiotherapy. 5 patients had a documented delay in adjuvant treatment (chemotherapy/radiotherapy).

Conclusions: Delayed-immediate reconstruction with subcutaneous implants provides a satisfactory temporising approach for patients deemed likely to be recommended adjuvant radiotherapy with a loss rate secondary to infection of 10.8%. Patient selection remains key to a successful outcome. It is important that patients are counselled with regards to this and the potential for delays in adjuvant therapies should complications arise.

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P102. Development of a nomogram for the prediction of having four or more involved nodes for node-positive breast cancer patients

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Introduction: Positivity of axillary lymph nodes of patients with breast cancer can be confirmed either with a FNA or with a sentinel lymph node biopsy. The purpose of this study is to develop a nomogram to predict the risk of having 4 or more axillary lymph nodes positive of a known node positive patient to help clinicians and patients making decisions.

Methods: We review the available data of 1324 patients that had positive axillary lymph nodes (minimum 10 nodes removed) in our unit in the last 7 years. A nomogram to predict the risk of having four or more nodes positive was developed from multivariate logistic regression analysis using data of patients (1173) diagnosed up to 2012. Data of patients diagnosed in 2013 (151) were used to validate the nomogram. The accuracy of the nomogram was evaluated by receiver operating characteristic curve (ROC) and calculation of area under curve (AUC).

Results: 373 of the patients had 4 or more nodes positive (46 patients in 2013). On the multivariate analysis, having four or more nodes was associated with age, tumour histology, primary tumour size, lymphovascular invasion, extracapsular spread, neoadjuvant chemotherapy and axillary node u/s diagnostic result. The nomogram performed well with the training (AUC: 0.8) and also with the validation population (AUC: 0.79)

Conclusions: The nomogram can predict reliably the risk of having 4 or more nodes positive in our population.

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P103. Excessive advanced disease at presentation influences 1 year survival and mastectomy rates in an inner London setting

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Introduction: Newham is one of the most deprived and ethnically diverse boroughs in the United Kingdom (UK). It has been identified as having one of the lowest 1 year survival rates for breast cancer and one of the highest mastectomy rates in the UK. Advanced disease at presentation may influence this.

Methods: A prospective and retrospective analysis of symptomatic breast cancers presenting between November 2011 and November 2013. Rates of advanced disease (TNM staging T4 or M1) were compared to national available data.

Results: One hundred and sixty-one patients were diagnosed with breast cancer in the time period. Seventeen (10.5%) patients presented with locally advanced disease (T4a, b, c or d) and twenty-three (14.3%) patients presented with stage IV metastatic disease (M1) at diagnosis compared to national data of 5%. There was no difference in terms of age or ethnicity with regard to presentation with early or late disease at diagnosis.

Conclusions: Patients in Newham present with excessive advanced disease both locally and distally. The causes are likely to be multifactorial and require further analysis. However, this is associated with a poorer outcome both in terms of survival and mastectomy rates. Perhaps creating health hotspots akin to crime hotspots with increased investment may improve outcomes in terms of increased awareness, earlier presentation and treatment compliance.

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P104. Radial margin width at breast conserving surgery for DCIS and recurrence

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Introduction: NICE guidelines suggest a minimum 2mm radial margin width for DCIS at Breast Conserving Surgery (BCS). Using a large dataset with long follow-up, we assessed if 1mm radial margins at BCS for DCIS were oncologically safe.

Methods: We retrospectively assessed patients who had undergone BCS for DCIS between 1979-2010. We compared radial margin-width to recurrence.

Results: 387 patients were identified who had BCS for pure DCIS. Some historic cases accepted involved and close (<1mm) margins. In total there were 63 recurrences (38 further DCIS and 25 invasive cancers). Median follow-up was 55 months (interquartile range 24-96 months). There were no significant differences in grade, size or adjuvant therapy between margin-width groups. Cases with involved/close (<1mm) radial margins were significantly more likely to recur than more widely excised lesions (p=0.002). However, there was no difference in recurrence between 1mm versus wider margins.

	Radial margin width (mm)					
	<1/involved	1-1.9	2-2.9	3-3.9	4+	Total
Not recurred	67	44	44	31	138	326
Recurred	27 (29%)	3 (6%)	3(6%)	6(17%)	24(14%)	63(16%)
Total	94	47	47	37	162	387

P=0.002 <1mm/involved versus other groups, P=0.371 excluding <1mm/ involved.

Conclusions: After BCS for DCIS, involved and close (<1mm) radial margins are a risk factor for recurrence. A radial margin width of 1-1.9mm is as safe as 2mm or more widely excised lesions. Therefore there is no need to offer margin re-excision with a pathological radial margin risk width of equal to or greater than 1mm. This would improve long-term cosmetic outcome without increasing recurrence risk.

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P105. Using the volume and the maximum size of metastatic deposits in axillary sentinel lymph nodes of breast cancer patients to predict positive non-sentinel lymph nodes

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Introduction: Up to 60% of patients with a positive sentinel lymph node (SLN) biopsy have no additional nodal involvement and do not benefit from completion axillary lymph node dissection (ALND). The purpose of our investigation was to develop a nomogram to predict non-SLN status in patients with breast cancer and SLN metastases.

Methods: We reviewed data from 2007 until 2013 from 171 patients who had a positive SLN biopsy and subsequently had an ALND. The diameter of the largest metastatic deposit (LMD) in any positive SLN was recorded and the metastatic volume (MV) of this node was calculated. The total metastatic volume (TMV) was calculated by adding the MV of all positive SLNs. A nomogram predicting the risk of having non-SLN positive nodes was developed from multivariate logistic regression analysis. The accuracy of the nomogram was evaluated by receiver

operating characteristic curve (ROC) and calculation of area under curve (AUC).

Results: 93 patients had only 1 positive SLN. On the multivariate analysis, having further positive non-SLNs (26 patients) was associated with HER 2 receptor status, presence of multifocal disease, size of primary tumour, neoadjuvant chemotherapy and LMD (AUC:0.86). In the 78 patients that had more than 1 positive SLN, having further positive non-SLNs (39 patients) was associated with age, number of nodes removed, tumour grade, presence of extracapsular spread, LMD , MV and TMV (AUC:0.8)

Conclusions: The measurement of volume and diameter of metastatic deposits in the SLNs helps to estimate the risk of positive non-SLNs.

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P106. Does neoadjuvant chemotherapy increase the risk of post-operative complications following mastectomy and immediate DIEP flap reconstruction for early breast cancer?

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Introduction: Neoadjuvant chemotherapy (NC) has been beneficial in reducing tumour size in those with early breast cancer, thereby facilitating immediate reconstruction of the breast. However there are concerns with immediate microvascular reconstruction following NC, due to the risk of flap-related vascular and donor & recipient site wound complications, which might delay initiation of adjuvant treatment. This study aims to compare the post-operative complications of those who undergo DIEP (Deep Inferior Epigastric Artery Perforator) flap reconstruction following NC with those without prior NC.

Methods: Patients who underwent DIEP flap from May 2009 until May 2013 were retrospectively studied (n=131). The modified Clavien-Dindo classification was used to report complications.

Results: 72 patients (55.0%) underwent DIEP reconstruction following NC and 59 (45.0%) without NC. All flap transfers were successful (100% flap success rate). There was no difference in breast complications between the group with NC vs. without NC [27 (37.5%) vs. 13 (22.0%); p=0.060]. Similarly, there was no difference in flap site complications between the two groups [26 (36.1%) vs. 31 (52.5%); p=0.076]. The group with NC had significantly higher number of grade 2 complications [27 (37.5%) vs. 9 (15.2%); p=0.005*], whereas those without NC had higher grade 3a [14 (19.4%) vs. 24 (40.7%); p=0.011*].

Conclusions: The study demonstrates no significant increase in complications in those who have NC before DIEP flap reconstructions in comparison to those without NC. Reporting the complications using the widely accepted Clavien-Dindo classification does demonstrate increase in grade 3a complications with those without prior NC (majority due to seroma aspirations).

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P107. The management of C1 cytology in the assessment of breast lumps: Audit to ensure oncologically safe practice

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Introduction: Fine needle aspiration cytology is commonly used for pathological assessment of breast lumps as part of triple assessment. A C1 (inadequate sample) result is returned in 8-23% of cases. Department of Health (DoH) 'Best practice diagnostic guidance for patients presenting with breast symptoms', suggests repeating a C1 result only for triple assessment discordance or suspicion. Local policy must be robust to identify patients who can be safely discharged without biopsy repeat.

Aims: Assess oncological safety of current practice in managing a C1 cytology result and adherence to DoH guidance.

Methods: Retrospective analysis of patients seen in breast clinic at Heart of England NHS Trust (HEFT) between January 1st 2011 to December 31st 2011 with an initial C1 pathological assessment.

Results: 254 patients. Mean age 50.

46 patients showed discordance of triple assessment. 12 of these patients had further pathological assessment, 26 patients discharged following review of triple assessment at MDT and 7 underwent repeat clinical and radiological assessment prior to discharge. 4 patients with initial C1 cytology were subsequently diagnosed with cancer on repeat biopsy. No patients discharged with C1 cytology, where biopsy not repeated, returned with invasive disease during 12-month follow-up.

Discussion: HEFT practice for C1 cytology assessments is oncologically safe. 34 patients with C1 cytology and discordance did not have a repeat biopsy following review at MDT meeting. This underlines the importance of multidisciplinary review in planning further management and safe discharge of patients. Continuous audit of this MDT outcome is essential to maintain oncological safety of C1 assessments.

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P108. Therapeutic mammoplasty: Oncologically effective and cosmetically acceptable for breast conserving surgery in large volume disease

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Introduction: Breast conserving surgery (BCS) undertaken for large volume disease has a significant re-operation rate (20-29%) to ensure oncological clearance. This can produce poor cosmetic results particularly following adjuvant radiotherapy. Therapeutic mammoplasty offers a strategy to improve oncological effectiveness at the first operation and provide acceptable cosmetic results. Few studies have looked to determine whether there is a significant oncological and cosmetic advantage in employing this technique with more extensive single focus breast cancer.

Aims: Assess the oncological effectiveness and cosmetic satisfaction of patients undergoing therapeutic mammoplasty for breast cancer.

Methods: Retrospective analysis of all patients undergoing therapeutic mammoplasty for invasive and non-invasive disease by a single oncoplastic breast surgeon between February 2010 and October 2013.

Results: N = 55 patients. Mean age = 54. Mean tumour size 22.8mm (7-63) with 52% having concurrent DCIS. Mean specimen weight 342g. Involved margin rate 8% (4) with 6% (3) undergoing further oncologic breast surgery. The remaining patient undergoing adjuvant chemoradiotherapy. 80% patients had concurrent contralateral surgery for symmetry. 8% required further ipsilateral surgery for cosmetic satisfaction.

Discussion: The use of therapeutic mammoplasty allows for extension of BCS for larger volume disease. It offers an oncologically effective surgical resection with much lower reoperation rates than wide local excision even in the presence of DCIS. This is achieved with high cosmetic satisfaction, which can be achieved when synchronous contralateral surgery is performed.

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P109. Outcomes in male breast cancers presenting to a tertiary breast unit

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Introduction: We looked at all male patients presenting to our breast service over a 5 year period. We identified all those with a diagnosis of malignancy and extracted information on their management, histopathological diagnosis and outcomes.

Methods: The total number of male outpatients from 01/2009 to 10/2013 was identified using clinic codes. Men with breast cancer were identified through breast care nurse records, cancer care network databases and pathology databases. Further information was obtained via computerised records.

Results: 1151 male patients were seen in outpatients over the study period. 22 were diagnosed with a malignancy. Median age of cancer patients was 72 (range 38-93). 15 patients had primary breast cancer on final histology (68%). 5 patients had secondary breast cancer with a lung primary. 2 patients had a sarcoma and a neuroendocrine tumour respectively and underwent wide local excision for local control. 15 patients underwent mastectomy with an axillary procedure. 6 patients underwent radiotherapy, 6 chemotherapy and 14 adjuvant hormone therapy. 8 patients (36%) died, with a median survival of 6 months (range 0.75-20 months). 3 patients with breast primaries died between 3.1 and 5.3 months after diagnosis.

Conclusion: Survival is poor for male breast cancer patients, despite aggressive treatment. This is partly due to a high proportion of secondary breast cancers. However, 3 of 15 presumed early primary breast cancers resulted in metastasis and death within a short time of diagnosis. A low threshold for staging CT in all newly diagnosed male cancers is recommended.

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P110. Is there still a role for bone scintigraphy in patients with breast cancer selected for systemic staging in the era of multi-detector CT?

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Approximately 7% of women will have distant metastases at time of presentation with breast cancer. Routine use of bone scintigraphy is no longer recommended due to a higher false positive than true positive rate. Bone scintigraphy is used in addition to CT of the chest, abdomen and pelvis (CT-TAP) in patients with clinical stage II and III disease. The aim of this study was to evaluate the additional diagnostic yield from bone scintigraphy in patients with newly diagnosed breast cancer undergoing staging with CT-TAP.

Patients with newly diagnosed breast cancer who underwent systemic staging by means of CT-TAP and bone scintigraphy were included. Results of biopsy and staging investigations were correlated. Criteria for staging were:

- Patients with locally advanced or inflammatory breast cancer
- Patients undergoing neoadjuvant therapy
- Patients with biopsy proven axillary nodal metastases on US staging of the axilla
- Patients undergoing mastectomy
- Patients with symptoms suggestive of metastatic disease

A total of 135 patients (median age 59 years) were eligible for inclusion over a one year period (2012). Seventeen patients (13%) had evidence of distant metastases on staging investigations. Four patients (3%) had metastases to more than one organ on CT-TAP. Of the 13 (10%) patients with one metastatic site, 2 (1%) had liver metastases and 5 (4%) had lung metastases only. Six patients (4%) had bone metastases and only one of these involved a bone (subtrochanteric femur) metastasis not seen on CT-TAP. CT-TAP alone would have resulted in a false negative rate of 0.7%.

In patients with newly diagnosed breast cancer selected for systemic staging, multi-detector CT is a satisfactory stand-alone investigation. Further study should examine whether protocol adjustment to include proximal long bones will reduce or eliminate false negative results.

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P111. Techniques to reduce seroma formation after mastectomy and axillary clearance: Current trends amongst UK breast surgeons

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Introduction: Persistent seromas following breast and axillary surgery risk infection and delay adjuvant treatment. Although various surgical and post-operative modifications have been proposed to reduce seroma rates, best practice remains unknown. We therefore conducted a survey to establish current practice amongst UK Breast Surgeons.

Methods: An online survey about current surgical practice for mastectomy and axillary clearance was distributed to ABS members, requesting details of surgical technique, drain usage, post-operative mobilisation and length of stay.

Results: 61 completed surveys were submitted from across the UK, 60.3% by Consultant Surgeons.

The majority of surgeons use monopolar diathermy for mastectomy (85%), although choice of instrumentation for axillary dissection was more variable (42% monopolar, 24% bipolar, 20% sharp dissection). Most surgeons routinely perform a level II axillary clearance (57%). Only 24% of surgeons routinely quilt the breast or axilla. The use of drains remains common after mastectomy (72%) and axillary clearance (83%).

Post-operatively, protocols for drains removal are commonly based on volume drained. The majority of patients are discharged home the same day (13%) or within 23 hours (78%) Pressure garments/dressings are used routinely by 90% of surgeons, and the majority encourage early shoulder mobilisation.

Conclusion: There is significant variation in UK surgical practice for mastectomy and axillary clearance, with few surgeons performing techniques such as quilting, which have been shown to reduce seroma rates. A prospective database which correlates surgical methods with seroma rates would provide evidence to produce guidelines in this area.

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P112. Axillary clearance should not be abandoned in the era of oncotype DX testing

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Introduction: The Z0011 trial showed that axillary lymph node dissection (ALND) may be omitted in selected patients treated with breast conserving surgery, adjuvant radiotherapy and systemic treatment. We remain concerned about axillary recurrence and still offer ALND to patients with positive sentinel nodes.

Our aim was to calculate our positive ALND rate.

Methods: Patients diagnosed with breast cancer in our unit are entered into a prospective database. A retrospective analysis of patients with a positive sentinel node biopsy (SNB), who proceeded to ALND, over a 5 year period was performed.

Results: Between 2007 and 2011 2,358 breast cancers were diagnosed. 1,300 SNB were performed and 18% were positive. 62 patients had 1 out of 1 sentinel node positive − of those proceeding to ALND, 31% had further positive nodes. 133 patients had 1 out of 2, 3, 4, 5 or 6 sentinel nodes positive − 26% had a positive ALND. 45 patients had $\geq$ 2 sentinel nodes positive − 43% had a positive ALND.

Conclusions: The Z0011 trial suggests ALND could be abandoned. However, we found that overall 31% of patients undergoing ALND had further positive nodes. Using Oncotype DX testing, some of these patients

would not receive systemic therapy and we feel ALND should be considered in all patients with a positive SNB. We recommend patients with ≥ 2 sentinel nodes positive, be offered ALND as there is a high chance of further axillary disease (43%). Patients considering ALND may be concerned about developing lymphoedema and these results may inform their decision-making.

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P113. Second look ultrasound of the axilla – The pennine experience

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Introduction: Axillary ultrasound (AUS) is the imaging method of choice for pre-operative evaluation of the axilla. A second look AUS provides an opportunity to re-assess the axilla as an elective procedure outside the time constraints of the initial assessment. Our aim was to identify whether a second look axillary USS offers any additional benefit to our pre-operative staging.

Methods: All breast cancer patients presenting at the Trust (two breast units) who had axillary imaging over a one year period were prospectively recorded. Patients presenting from January to June inclusive only had a single look AUS. From July to December inclusive those patients with a normal first look AUS also had a second look AUS between three and seven days after the initial examination. Two practitioners using the same equipment performed all imaging.

Results:

	Jan – June (n=132)	July – Dec (n=112)
Node Positive	53	49
1st Look AUS Abnormal	34	30
1st Look AUS Normal & 2nd Look AUS Abnormal	N/A	7
Overall Sensitivity of AUS	64% (34/53)	76% (37/49)

Conclusion: Second look AUS correctly identified an additional 7 node positive patients that weren't identified from the first scan. It provides a simple and financially viable way of improving the sensitivity of preoperative AUS, therefore potentially saving node positive patients from undergoing an additional unnecessary sentinel lymph node biopsy procedure.

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P114. "The Angelina Effect": The effect of high profile media coverage on referrals to a family history breast clinic

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Introduction: In May 2013, Angelina Jolie announced that she had undergone bilateral mastectomies and reconstruction as she is a BRCA1 gene carrier. We investigated the impact of publicity ("The Angelina Effect") on referrals to our family history breast clinic.

Methods: The number of monthly referrals and estimated lifetime risk of developing breast cancer [population (<17% risk), moderate (17-30%) and high (>30%)] were reviewed retrospectively and compared between 2012 and 2013.

Results: In June 2013, referrals tripled as compared to the previous month and year and the increased number of referrals appears to continue, but there was no difference in the proportions in each lifetime risk group as shown in the table.

	Total referrals (n)		Proportion (%) in lifetime risk groups					
			Population		Moderate		High	
Month	2012	2013	2012	2013	2012	2013	2012	2013
January	16	24	9.1	33.3	54.5	38.9	36.4	27.8
February	22	29	17.6	14.3	17.6	61.9	64.7	23.8
March	21	28	40.0	16.7	40.0	37.5	20.0	45.8
April	26	24	25.0	30.0	40.0	45.0	35.0	25.0
May	20	24	38.5	0.0	23.1	75.0	38.5	25.0
June	22	69	12.5	24.5	62.5	36.7	25.0	38.8
July	9	55	20.0	40.0	40.0	36.7	40.0	23.3
August	23	34	18.8	21.1	50.0	57.9	31.3	21.1
September	4	24	100.0	50.0	0.0	25.0	0.0	25.0
October	32	50	16.7	70.0	54.2	20.0	29.2	10.0
November	27	18	8.7	100.0	47.8	0.0	43.5	0.0
December	13	-	33.3	-	33.3	-	33.3	-

Conclusions: Angelina Jolie's announcement increased referrals to our family history breast clinic. This has implications for our service but the downstream effects in genetics and surgery may not be substantial if there is no increase in the proportion of women estimated to have a high lifetime risk of breast cancer.

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P115. Coding of co-morbidities in breast patients

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Introduction: Patients undergoing breast surgery with co-morbidities may attract a higher tariff. It is important that this data is captured to ensure hospitals get correct remuneration. Our aims were to see if co-morbidities were captured by coders and to assess the likelihood of co-morbidities mentioned on the discharge summary being captured.

Methods: Data was collected retrospectively from 1st July to 31st August 2013. Only episodes HRG coded as JA (breast procedures and disorders) were included.

Co-morbidities were identified from patient letters. A list of HRG codes for the episodes were obtained from the general surgery specialty manager, breakdown of the codes contributing to the HRG were found on E-Oasis. 50 episodes included patients with co-morbidities.

Results: During this period, there were 103 scheduled breast episodes of which 12 were erroneously given an HRG code other than JA. No assigned code was found in 3 episodes. 50 episodes had patients with co-morbidities and 36% were coded correctly. If the co-morbidities were mentioned on the discharge summary, they were significantly more likely to be coded ($p<0.000039$).

Had the co-morbidities been captured and coded correctly, 40% patients would attract a higher HRG code with an increase in income of £3,887 in the two months. This could mean a potential annual gain of £23,322.

Conclusions: The discharge summary is a useful source of information for coders. Oversights in writing co-morbidities on the discharge summary results in inaccurate coding and thus remuneration for the hospital. Increased awareness and improved discharge summary can maximize income for Trusts.

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P116. Day case mastectomy: Feasibility, length of hospital stay and patient satisfaction

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Introduction: Increasing breast-conserving surgery and less axillary surgery (sentinel node biopsy) have lead to a significant reduction in average length of hospital stay (LOS). Over 30 percent of patients undergo mastectomies and recent studies have shown day case/ one night stay to be a safe approach. Having made changes to the surgical pathways for all breast cancer patients, we assessed the LOS and feasibility of day case mastectomy at our hospital.

Methods: All mastectomies with or without an axillary procedure performed over the past 2 years were included. Patient demographics, type of surgery, LOS and patient satisfaction (using a modified *Quality of Recovery-40* postal questionnaire) were assessed. Patients who underwent immediate reconstruction were excluded.

Results: From January 2012 to November 2013, 217 women underwent mastectomy. Median age was 71 (36-93) years. 85% (n=185) underwent surgery as day case/one night stay. 10% (n=21) were discharged the same day. Patient satisfaction results are awaited.

Table: Relationship between LOS and axillary procedure

	Length of Stay (days)										
Axillary Surgery	0	1	2	3	4	5	6	7	9	10	Total
None	4	7		1							12
Sentinel Node Biopsy	8	84	4				1				97
Sampling	1	4						1			6
Clearance	8	68	10	3	4	3			1	1	98
Bilateral		1	3								4
Total	**21**	**164**	**17**	**4**	**4**	**3**	**1**	**1**	**1**	**1**	**217**

Conclusions: With changes in the surgical pathway, majority of mastectomy patients can be managed as day case/ one night stay irrespective of axillary procedure performed. Results of patient satisfaction survey would advise improvements in the pathway.

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P117. Breast cancer awareness month: Is it a waste of time?

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Introduction: Breast cancer awareness month (BCAM) is an annual international health campaign every October to increase awareness of the disease. 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.

Risk factors for breast cancer	Correct responses in percent (%)	
	Sep 2012	Nov 2012
Being female	56	77
High alcohol consumption	41	54
High body mass index	50	41
Hormone replacement therapy	59	72
Contraceptive pill	59	79
Smoking	71	72
Family history	50	46

A 33% increase in total 'yes' responses was observed in Nov (n=320) compared with Sep (n=241). This increase in 'yes' responses in Nov was similar for correct (37%) and incorrect (27%) replies with no statistical difference between the two (p=0.089).

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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P118. Free hand breast core biopsies in a selected group are as good as image guided biopsies

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Introduction: There has been an increasing trend towards image guided core biopsy than free hand biopsy for symptomatic breast lesions. We aimed to study our own practice.

Methods: All patients presenting to one stop breast clinic needing core biopsies over a 24 month period under a single consultant were prospectively included in this study. Information was collected regarding method & number of biopsies, time delay between patient initial assessment, core biopsy and results given.

Results: 548 consecutive breast core biopsies were performed over this 24 month period.

	Free hand biopsy	Image guided biopsy	p Value
Total number (%)	413 (75%)	135 (25%)	
Palpable lesions (total 451)	413 (92%)	38 (8%)	
Median number of cores taken per biopsy (range)	2 (1-8)	4 (1-10)	< 0.0001
Median number of days lapsed between patient assessment and core biopsy (range)	0 (0-50)	8 (0-42)	< 0.0001
Median number of days lapsed between patient assessment and result given (range)	7 (2-52)	16 (2-57)	< 0.0001
Sensitivity	400/413 (96.8%)	134/135 (99.2%)	0.19

Conclusions: 75% of the total and 92% of the palpable lesion biopsies have been performed free hand with no significant difference in diagnostic sensitivity compared with image guided biopsies. In a selected group, free hand biopsies provide the added advantage of early diagnosis and subsequent treatment.

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P119. Medical students in breast clinics: How welcome are they and how can we improve their learning opportunities?

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Introduction: Opportunities for medical students to attain breast examination competence are limited with some patients declining consent. We aimed to identify factors that could influence student learning opportunities within breast clinics.

Methods: A survey was distributed to all patients attending our breast surgical pre-assessment clinic between July-September 2013. Data were analysed using SPSS 20.

Results: 111/138 (80%) patients responded with ages ranging 17-86 (median 55), previous attendance ranging 1-27 (median 4). 42 (38%) were under the care of a male surgeon. Patients overwhelmingly felt students should attend breast clinics, with 13 (12%) preferring to be seen alone, whilst 93 (84%) were happy to accept students and 88 (79%) agreeable to examination by one. Patients under the care of a male surgeon were significantly more likely to consent to history taking ($p=0.012$) and breast examination ($p=0.019$). Increasing age was associated with increased agreement to examination ($p=0.028$). Frequency of clinic attendance did not correlate to consent to presence, history taking or examination in clinic. Patients who recalled clinic letters informing them of student presence were more likely to allow them to remain in clinic ($p=0.044$) but not take a history or examination.

Conclusion: Patients under the care of male surgeons, and older patients, are significantly more likely to consent to all student learning activities. Learning opportunities for medical students could be improved by amending clinic invitation letters so that notification of their presence is more obvious, as patients are significantly more likely to accept students if they recall advance notification of this.

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P120. A prospective experience of breast implants at a district general hospital: Time for a change in perspective?

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Introduction: Women with breast implants are routinely referred to breast clinics in National Health Service (NHS) hospitals if they have breast symptoms. We describe our experience of breast implant patients presenting to breast clinic in a District General Hospital.

Methods: All patients presenting to a one-stop breast clinic with breast implants in-situ, between September 2009 and September 2012 were included prospectively in this study. Patients were divided into two groups, group A: implants for cosmetic indications and group B: implants for reconstruction following breast cancer surgery.

Results: 102 patients with breast implants (2.1 % of the total 4833 patients) were seen during this 36 months period. Group A had 91 patients (89%) and group B had 11 patients (11%). Group A patient were significantly younger ($p<0.0001$) and presented significantly earlier ($p<0.0001$) in comparison with group B patients. 24 patients (23%) had mammograms, 99 patients (97%) had ultrasonograms and 29 patients (28.5%) required MRI of their breasts. 24 patients (23%) had ruptured implants and 31 patients (30%) required surgery. No patient had a diagnostic needle core biopsy.

Conclusions: Conventional triple assessment of breast lesions in patients with breast implants is challenging because of higher risk of the implant rupture with needle core biopsy. The hidden cost of cosmetic breast implants puts extra pressure on existing NHS services potentially undermining provision of breast clinic access to the breast cancer patients. Has the time come that the cosmetic implant providers offer a comprehensive insurance scheme to cover the costs of implant complications?

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P121. A multidisciplinary team approach to risk-reducing surgery – Lessons from a two-year retrospective review

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Introduction: Given escalation in requests for risk reducing mastectomy, a regional Multidisciplinary Team meeting (RRM-MDT) was established toward improving the quality of decision-making. The aim was to review cases discussed at RRM-MDT with specific focus on referral patterns and justification for acceptance or rejection of risk-reducing surgery.

Methods: A retrospective observation study of case notes was conducted extracting: (a) family history and genetic mutation status; (b) details of prior breast cancer(s); (c) whether request was for bilateral or contralateral risk-reduction; (d) RRM-MDT decision; and (e) justification(s) for rejection.

Results: 128 patients have been discussed [unaffected requesting bilateral RRM (42.2%), and affected requested either contra-lateral (39.8%) or bilateral RRM (17.2%)]. Only half have had requests for risk-reducing surgery accepted (53.1%). Of the patients in whom requests for risk-reduction were rejected (34.4%), reasons included: (a) concerns regarding age (4.5%) or co-morbidity (4.5%); (b) unsubstantiated family history or genetic risks (13.6%); (c) poor prognosis regarding index breast cancer (6.8%); and (d) need for further psychological evaluation (4.5%). A few patients subsequently pursued non-surgical alternatives (13.6%). Of the patients requesting contra-lateral mastectomy (40.6%) a significant number were accepted (59.6%) of which a proportion were confirmed gene-carriers (64.5%). Therefore, a number of requests for contra-lateral mastectomy were granted in patients with sporadic breast cancer but in whom family history elevated risk estimates for contra-lateral disease.

Conclusion: RRM-MDT facilitates cross-specialty interrogation of requests for risk–reduction, helps to justify reasons for rejection and restricts surgery to those likely to derive maximum benefit.

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P122. Wide local excision of breast cancer under local anaesthetic: A treatment option for elderly

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Introduction: Elderly and medically unfit patients make up a small but significant proportion of breast cancer patients. Treatment of such patients can be challenging.

Methods: A prospective study of breast cancer wide local excisions (WLE) performed under local anaesthesia (LA) over a period of 9 years. Preoperative assessment included calculation of American Society of Anaesthesia (ASA) status, Portsmouth Physiologic and Operative Severity Score for enumeration of Mortality and Morbidity (PPOSSUM), mini mental state examination (MMSE) and oestrogen receptor (ER) status. Treatment options were then discussed with patients and their carers.

Results: 36 patients were included, with median age of 82 years (range 59 – 95 years). 13 patients had ASA grade 2, 22 patients had ASA grade 3 and 1 patient had ASA grade 4 (median ASA grade = 3). Reasons for LA included anaesthetic concern (n=28) and patient/surgeon choice (n=8). 35 patients had WLE and one had mastectomy under LA. Expected procedural morbidity was 28.8% (range=14-60%) and mortality was 1.9%

(range=0.9-6.1%), calculated by PPOSSUM scores. MMSE range was 8-10 (average 8.75).

Size range of cancer was 13-47mm with median of 26mm. One patient had involved margins needing further wider excision under LA. All patients were offered appropriate adjuvant treatment (29 had anti-oestrogen therapy, 16 had radiotherapy and one had chemotherapy).

2 patients developed local recurrences, at 3 months and 12 months respectively from the original operation, both treated with further WLE under LA. 12 patients (33%) have died; 3 from metastatic spread of cancer and 9 from unrelated causes. Average time to death from the original operation in metastatic cancer group was 43 months (range=39-47 months) and in unrelated deaths group was 36 months (range=5-113 months).

24 surviving patients (67%) have a median follow-up of 44 months (range= 2-60 months).

Conclusions: WLE of breast cancer under LA is a useful option. All patients in this selected 'unfit' group were treated as day cases. A large volume of LA should be used to achieve adequate anaesthesia. Patient selection should be careful; they should not be confused or agitated with good MMSE scores.

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P123. A new surgical protocol to reduce re-operation rates in breast conserving surgery

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Introduction: The challenge of breast conserving surgery (BCS) with Wide Local Excision (WLE) is to balance oncological control with good long-term, aesthetic results. This study presents the results of an audit in a single breast centre and the introduction of a local protocol to reduce re-excision rates.

Methods: Re-excision rates were reviewed over six months for consecutive patients undergoing BCS for invasive disease. A new protocol was then introduced where additional cavity shave excision biopsies were taken at the time of WLE and re-excision rates were reviewed. Histological assessment was performed by a dedicated breast pathologist and re-excision recommended if invasive or in-situ disease was found within 2mm of any new resection margin.

Results: In the initial cohort, 81 patients (age range 25.9 − 82.1 years, median 62.5), 27 (33%) had close or involved margins. Following the new protocol there was no significant difference in the mean weight of WLE specimens (34.6g vs 33.5g, p=0.720 on T-test) or the mean diameter of invasive disease in each cohort (16.8mm vs 19.6mm, p = 0.100 on T-test). In the second group of 81 patients (age 34.7 − 83.4 years, median 63.7 years), only 15 (18.5%) (p=0.048, Chi-square = 3.89, dF = 1) required a second operation due to involved margins.

Conclusions: The introduction of cavity shaves can significantly reduce re-excision rates following BCS in invasive breast cancer. This does not affect the total volume of tissue resected and we infer that this allowed us to optimise oncological treatments with equivalent breast cosmesis.

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P124. Management of the axilla in breast cancer patients in the North of England cancer network

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Introduction: This study audited the management of the axilla in breast cancer patients within the North of England Cancer Network (NECN) against ABS and local guidelines. Secondary aims were to establish whether the axilla should be managed differently in T3 tumours compared to T1/T2s, and identify predictive pathological features for further non-SLNB metastases on completion axillary lymph node dissection (cALND).

Methods: Data was collected prospectively over 12 months from nine hospitals. Age, tumour characteristics, breast operation, sentinel node detection method, axillary operation(s) and nodal results were recorded.

Results: A total of 1,142 patients were included. Of these, 866 patients underwent SLNB only, 120 had SLNB then cALND and 156 patients had a primary ALND. Overall, management was consistent with ABS and local guidelines with the exception of the ABS recommendation that, for sentinel node detection, combined blue dye/radioisotope should be used (34% underwent single-method detection). With regards to SLNB for T3 tumours, 43% were positive versus 21% in patients with T1/2 tumours (p=0.0011, Fisher's exact) The data revealed that the following were significant risk factors for further non-SLN metastases on cALND: lymphovascular invasion (p=0.006, Fisher's exact), extra-capsular spread (p=0.01, Fisher's exact) and tumour size (p=0.04, chi-squared).

Conclusion: There is good compliance with guidelines in the NECN hospitals. The risk factors demonstrated for additional non-sentinel nodal metastasis can be used to aid decision making in further axillary management. Additional preoperative axillary staging (MRI) should be considered in T3 patients to improve detection of positive nodes and direct patients to primary ALND.

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P125. Interval breast carcinoma: A comparison of clinical-pathological characteristics between symptomatic and screen-detected breast cancer

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Background: Breast cancers arising between screening mammograms are a heterogeneous group which appear to have adverse prognostic features. Tumour biology may contribute to the favourable prognosis for screen-detected disease compared with interval-cancers.

Aims: To evaluate known prognostic features of screen-detected tumours compared to age-matched interval breast cancers.

Methods: Patients diagnosed with breast cancer from January 2010 to 2013 through the National Breast Screening Program (NBSP), and those between the ages of 50 and 65 diagnosed at the symptomatic breast clinic at SVUH were included in the study. Symptomatic patients with a previous history of breast cancer or no mammogram in preceding two years were excluded and the remaining patients considered interval cancers. Data were collected on patient demographics, tumour type, grade, hormone receptor status and stage.

Results: 915 patients were included in the study, with 92% (n=844) diagnosed through the NBSP. Screen-detected cancers were more likely to be at a lower stage than interval-cancers (p<0.01). DCIS accounted for 19% (n=160) of screen-detected breast cancers but only 8% of interval cancers (p<0.01). Tumour grade was significantly higher in interval cancer patients (p<0.01). Interval cancers were more likely to be ER negative (p<0.01) and to over-express the HER-2neu receptor (p=0.043). Screen-detected tumours were more commonly of the luminal A type (p=0.05), while luminal B, triple-negative and HER2 type tumours were more common in interval cancers (p <0.01)

Conclusion: This study highlights the tumour differences between screen-detected and interval cancers which may contribute to better prognosis in screen-detected patients and may increase our knowledge regarding the development of interval cancers.

Conclusion: This study highlights the tumour differences between screen-detected and interval cancers which may contribute to better prognosis in screen-detected patients and may increase our knowledge regarding the development of interval cancers.

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P126. Patient experience of intra-operative sentinel lymph node analysis

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Introduction: For patients with Breast Cancer, a positive sentinel lymph node (SLN) identified on histopathology usually means a second staged operation to the axilla. Identification of lymph node metastases intra-operatively allows definitive axillary surgery to be performed contemporaneously.

We sought to explore patients' opinions of intra-operative SLN analysis, focussing on whether they differed between those who required axillary node clearance (ANC) and those who did not.

Methods: A paper questionnaire was distributed to consecutive patients undergoing SLN biopsy at a single institution over a six week period. Questionnaires were sent 2 to 4 weeks post-operatively. Intra-operative SLN analysis was performed using the Metasin reverse-transcriptase assay.

Results: 47 patients were sent questionnaires, with 42 returned (response rate 89%). 28 (66%) patients underwent SLN biopsy only and 14 (33%) required ANC.

52% reported that not knowing the extent of their axillary procedure before surgery caused them significant anxiety. 20(48%) patients were not anxious regarding this.

Post-operatively, 92% of patients who had SLN biopsy alone and 92% of those requiring ANC stated that they would prefer intraoperative SLN analysis and a single axillary operation to a two stage SLN biopsy and ANC. All 3 patients who retrospectively stated a preference for two stage surgery stated that they were anxious pre-operatively not knowing the extent of the axillary surgery that would be performed.

Conclusion: Intraoperative analysis of SLNs is favoured by over 90% of breast cancer patients undergoing axillary surgery. The satisfaction rate is the same for those with negative SLNs, as those requiring ANC.

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P127. Should breast cancer patients with micrometastasis on sentinel node biopsy and OSNA undergo axillary clearance?

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Aim: Having introduced OSNA to our breast unit to reduce secondary axillary procedures, we noticed an increase in the detection of micro-metastasis. Our aim is to avoid unnecessary further axillary clearance and collaborate a management protocol for micrometastasis.

Method: Data was compared following the introduction of SLNB (dual technique) in 2005 to November 2012 to a prospective database of all OSNA procedures from November 2012 till October 2013. All demographics, tumour characteristics, and axillary management were collected. The detection and management of micro-metastasis was compared.

Results:

Table 1
− Results of SNB

	SLNB Jan 2005 − Oct 2012 8 YEARS n (%)	OSNA Nov 2012 − Oct 2013 1 Year n (%)
Number of SNB	2005	266
Number of Micro metastasis	101 (5%)	80 (30%) 6 fold increase P<0.0001®
Number of Macro metastasis	286 (14.3%)	39 (14.7%)

®Chi Square Test.

Table 2
- Results of Micrometastasis Group

	SLNB Jan 2005 − Oct 2012 101 patients	OSNA Nov 2012 − Oct 2013 80 patients
Mean Age (range)	60 (25-91)	61 (32-89)
Mastectomy	55	25
WLE	46	55
Further Axillary Procedure (ANS/ANC)	42 (42%)	32 (40%)
Further Nodes Positive	3/42 (7%) [2 Micro mets, 1 macro met]	1/32 (3%) [1micro met] p-0.4489®
3 year Axillary Recurrence Rate	0	N/A

Conclusions:

- Significant increase in the detection of micro-metastasis with OSNA.
- Macrometastasis rates remain unchanged
- OSNA ensures a reduction in secondary axillary procedures
- Axillary clearance for micrometastasis can be avoided to reduce patient morbidity
- Need long term follow up of these patients

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P128. Training in aesthetic surgery: The UK trainee's perspective

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Introduction: The delivery of aesthetic surgery training is challenging within a service-driven environment. Training opportunities are limited by the European Working Time Directive and reduced national funding for aesthetic procedures. The aim of this study was to survey the current aesthetic surgery training experience of UK plastic surgery trainees.

Methods: An online survey was distributed to members of the Plastic Surgery Trainees Association (PLASTA) and the British Association of Plastic, Reconstructive and Aesthetic surgeons (BAPRAS). Responses were collated and analysed.

Results: 71 British Plastic Surgery trainees responded. 70% reported that aesthetic training was delivered by a combination of both national training and assisting in private practice. 78% were 'dissatisfied' or 'not very satisfied' with their current aesthetic training, 77% were being exposed to less than three aesthetic procedures per month and 80% intended to undertake a dedicated aesthetic fellowship. 92% were not evaluated on their aesthetic training progression at their annual assessment. 58% of trainees in their final two years of training reported that

they were either 'not at all prepared' or 'not very prepared' to integrate aesthetic surgery to their independent practice.

Conclusion: Our current national training programme needs additional dedicated aesthetic surgical training and competency assessments as it currently relies on self-directed learning that is associated with a lack of senior trainee confidence. Recognition of the limitations of the current model should help shape the future of aesthetic surgery national training programmes.

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P129. Nipple sensation and function following breast reduction with full thickness free nipple grafting.

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Introduction and aims: Women with macromastia and a sternal notch to nipple distance of greater than 40cm are at risk of nipple loss using a pedicled reduction technique. We present our experience of using a breast amputating technique with a dermoglandular flap to reshape the breast and a full thickness free nipple graft.

Materials and Methods: All patients who underwent breast reduction with full thickness free nipple grafting (FTFNG) between January 2007 and January 2013 were identified alongside a consecutive group of patients who underwent an inferior pedicle (IP) reduction during the same period. Patient demographics, co-morbidities, operative details and complications were collected from case notes. A postal questionnaire regarding nipple appearance, sensation and function was sent to all patients.

Results: 32 patients were identified, 16 had FTFNG reduction. Mean specimen weight was 1036g (range 415-2903g) for FTFNG and 544g (range 268-900g) for IP reductions. Three patients in the FNG group suffered partial nipple loss, three underwent tattoing for loss of pigmentation. No patients suffered complete nipple areolar complex loss.

19 patients responded to the questionnaire, 50% from each group. Half of the FTFNG patients reported normal nipple sensation and function in comparison to all of the respondents in the IP reduction group.

Conclusions: Breast reduction with full thickness free nipple grafting is a safe procedure for women with macromastia who might be at risk of nipple loss with a pedicled technique. It can be performed with a low risk of complications and in some cases nipple sensation and function will return post operatively.

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P130. The rate of One Step Nucleic Acid Amplification (OSNA) positive micro-metastases and additional histopathological NSLN metastases: Results from a single institution over 53 months

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Introduction: OSNA, a highly sensitive assay of cytokeratin 19 mRNA, is used intra-operatively for the detection of sentinel lymph node (SLN) macro- and micro-metastases in breast cancer. The clinical significance of micro-metastases and subsequent axillary surgery is currently under debate.

Aim: To review the rate of micro-metastases and further NSLN metastases in our unit over a period of 53 months.

Methods: Data was collected prospectively (01/12/2008 to 31/05/2013) for all eligible patients (clinical and radiological negative axilla). SLN biopsy was performed using blue dye and radioisotope. Patients with micro-metastases (+) underwent level I and those with macro-metastases (++) had level II/III axillary nodal dissection (AND).

Results: 1008 patients had 2151 SLN analysed. 336 (34%) were OSNA positive and had further AND. Of these, 152 (45%) had macro-metastases (++) and 184 (55%) had micro-metastases (+). A quarter of OSNA positive (85/336) had positive NSLN, with (++) having 38% (57/152) and (+) having 15% (28/184) further positive NLSNs ($p<0.05$). The ratio of positive SLN/harvested SLN showed a linear correlation with positive NSLNs in both micro- and macro-metastases. In micro-metastases, 5.4% (10/184) had overall nodal count of $\geq$4, needing adjuvant radiotherapy and the positive SLN/SLN ratio in these patients ($\geq$4 positive nodes) also showed a linear trend towards positive NSLNs.

Conclusion: Our study reflects the tumour burden of NSLNs based on the molecular analysis of the SLN. Prospective long-term follow-up data will facilitate the identification of factors that predict the NSLN metastases, allowing accurate calculation of the axillary tumour burden, particularly in patients with micro-metastases.

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P131. Intraoperative digital specimen mammography: The effect on re-excision rates.

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Introduction: This study examines the effect on re-operation rates with the introduction of Intraoperative Digital Specimen Mammography (IDSM) compared to Standard Specimen Mammography (SSM) in patients undergoing breast conserving surgery.

Method: In this retrospective cohort study 218 consecutive patients underwent breast conserving surgery at a single hospital. Data on single and multiple re-operation rates were collected for two surgeons.

Results: SSM was used in 99 patients in the year prior to introduction of IDSM, and IDSM was used in 119 patients the year after. Rates of further operation for re-excision of positive margins were similar using SSM and IDSM (22% vs 28% $p=0.35$).Re-operative rates were not significantly different between individual surgeons (26% vs 25% $p=0.88$).

Conclusion: ISDM was introduced in place of SSM at this satellite hospital as part of reconfiguration of radiology services. Previous studies suggest surgeon evaluated IDSM is comparable in accuracy to SSM, and there is postulation that IDSM can reduce the number of positive margins. However, this has not translated to evidence of reduced re operation rates. Our study supports this evidence that the use of ISDM has not significantly reduced re-operation rates.

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P132. The use of OSNA in the management of the axilla for DCIS

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Aim: With DCIS, metastatic spread to the axilla is unusual. However patients are having to return to theatre for further breast and axillary surgery if an invasive component is identified. Our aim was to review how many patients with DCIS had a positive Sentinel Node.

Method: Data was collected retrospectively from Jan 2005 to October 2013 for all patients undergoing sentinel node biopsy with an initial diagnosis of DCIS. All patients with extensive calcification underwent mastectomy with sentinel node biopsy regardless of microinvasion.

Results:

	DCIS 2005-2013
Number of patients	249
Mean Age (range)	60 (32-84)
Mastectomy	132 (53%)
WLE	117 (47%)
SNB metastasis	8 (3.2%)
Patients with DCIS	234
(pre OSNA: 2005 - 2012)	4 (1.7%)
Positive SLNB	3
Micro metastasis	1
Macro metastasis	
Patients post OSNA	15
(Nov. 2012 − Oct 2013)	4 (27%) all micro metastasis
Positive SLNB	
Further ANC	8
	2 micro metastasis
	6/8 − no further nodal involvement

Conclusions:

- Our detection rates of positive SLNB in DCIS is increasing, although numbers are still small
- OSNA appears to have an increased detection rate of micrometastasis
- No macrometastasis were detected following further axillary surgery
- We no longer perform axillary clearance for micrometastasis and this data confirms this to be a safe practice
- Are we still overtreating the axilla? SLNB is still associated with lymph oedema

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P133. Do all GP referrals really need to be seen within 2 weeks in the breast clinic?

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Introduction: DoH guidelines require all symptomatic patients to be seen in the Breast Clinic within 14 days, irrespective of the GP's suspicion of pathology. This has significant resource implications for breast services.

Method: A retrospective 6 week period was selected and analysed for the number of routine and urgent referrals received from primary care in our one stop breast clinic. Clinical and radiological scores plus final diagnosis and outcome were recorded.

Results: In 6 weeks there were a total of 476 GP referrals; 208 routine & 268 urgent.

	Routine		Urgent		
Outcome post breast clinic attendance	n	%	n	%	Outcome
No Biopsy / FNA	192	92.31	209	77.99	Discharge
B2 / C2	13	6.25	36	13.43	Discharge
B3 / C3	1	0.48	1	0.37	Further Ix
B4 / B5	2	0.96	22	8.21	Treatment

Discussion: The percentage of cancers identified in urgent referrals is significantly higher than routine referrals (p 0.05, t-test). All the cancers had notable imaging findings that would have led to biopsy in their own right irrespective of clinical findings. The percentage of cancers picked up in the routine group (0.96%) is similar to rate of cancer detection in the NHS Breast Screening Programme 2011-12 (0.81%) according to National Statistics

Conclusion: GPs are correctly able to triage patients into routine & urgent

The current guidelines are resulting in excessive 2 week referrals to the breast clinic, overwhelming the system which potentially delays assessment of those actually requiring it. Thus the guidelines need re-evaluating.

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P134. Implant assisted latissimus dorsi flap reconstruction − The worst of both worlds? A study of long-term outcomes in a district general hospital

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Royal United Hospital, Bath, UK

Aim

- To evaluate long term outcomes following LD flap reconstruction and the durability of the implant assisted flap compared to autologous.

Method

- Prospective cohort study using database of all LD reconstructions, under a single surgeon (2003-2013).

Results

- 110 patients included. Average follow-up: 69 months
- 116 LD flap reconstructions performed with extended harvest, 86 immediate and 30 delayed.
- 95 implant assisted (IA), 21 autologous.
- 30 patients had radiotherapy to the ipsilateral breast; 25 patients were smokers.
- 33 patients had subsequent nipple reconstruction.
- 27% patients required further reconstruction-specific surgery 6-120 months following initial surgery.
- 25% IA reconstructions required further implant surgery, 37% of these due to complications.
- 14% autologous reconstructions required further complication related intervention.

Procedures performed at re-operation	Frequency
Donor site	
• Revision scar	1
• Delayed seroma	3
Aesthetics	
• Revision IMF	2
• Lipofilling	1
• Revision LD scar	6
Implant surgery	
• Port removal	11
• Capsular contracture	2
• Removal (*infection/pain*)	8
• Exchange	
○ *shape maintenance*	8
○ *rupture*	1
• Re-augmentation (*following removal*)	2
• Primary augmentation of reconstruction	2

Conclusion: Reconstructive breast surgery is a process usually requiring more than one operation.

Autologous LD reconstruction is a successful procedure with few complications.

75% of the implant-assisted reconstructions did not require further implant related surgery at a mean follow-up of 69 months, also making it a satisfactory and durable long-term reconstruction. This could have been due to the protective nature of an extended harvest.

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P135. The impact of breast MRI on the surgical management of breast cancer

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Introduction: MRI is commonly used to optimise preoperative staging of lobular cancer and complex invasive ductal carcinoma. New MRI detected ipsilateral and contralateral lesions often require further investigations. Changes to tumour size estimation pre-operatively can alter the original surgical plan. The impact of MRI on subsequent management was assessed in our unit.

Methods: A retrospective cohort study of consecutive patients diagnosed with breast cancer between January 2012 and October 2013 with preoperative MRI were included. The indication for MRI, subsequent imaging and biopsies and change in surgical plan were reviewed.

Results: Preoperative MRI was performed in 50 patients to help assess cancer stage. Of these, 27 patients had lobular cancer (54%), 5 with DCIS (10%), 16 had ductal cancer (32%) and 2 patients had tubular cancer (4%). Breast MRI showed multicentric or multifocal disease in 23 out of 50 patients (46%). MRI altered the proposed management pathway in 28/50 cases (56%) and in 15 patients (30%), a mastectomy was proposed after MRI. New MRI detected lesions required further investigation with ultrasound scan and biopsies in 14 patients (28%).

Conclusion: Breast MRI scanning led to an altered surgical plan in more than half the patients. The enhanced imaging sensitivity associated with MRI, particularly in multifocal and mutlicentric cancer is invaluable when planning surgical resection. However some patients will undergo unnecessary additional investigations. The use of breast MRI should be encouraged in selected cases for preoperative staging.

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P136. Are we meeting NICE guidelines for timely radiotherapy following breast conserving surgery?

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Introduction: NICE guidelines state that adjuvant therapy for breast cancer should start as soon as clinically possible. All patients with early invasive breast cancer undergoing breast conserving surgery (BCS) should have breast radiotherapy within 31 days of surgery.

Method: This is a retrospective cohort study of all patients undergoing BCS from two units between June 2011 and June 2013. Data was extracted from theatre records and local computer databases. The primary outcome was date of radiotherapy (DXT) from date of surgery (BCS) the date was taken from the last date of surgery (i.e. including re-excision) and secondary outcomes included re-excision and mastectomy rate (further surgery), ASA and length of stay (LoS).

Results:

	No of pts	Mean age	ASA	LoS (mean)	Further surgery	No of days between BCS & DXT
Unit 1	289	60	2	1	33	56 (range 14-305)
Unit 2	221	59	2	1	7	47 (range 12-239)

Unit 1 included 289 patients with a mean age of 60 (range 30-91), Mean ASA 2 and mean LoS 1 however 56% were day case, 26 required re-excision and 7 patients required completion mastectomy. Unit 2 included 221 patients with a mean age of 59 (range 27-89), mean ASA 2, LoS 1 however 10% were day case, 7 patients required re-excision.

Conclusions: The two units had comparable data for mean age, ASA and LoS but differed on day case rate. Unit 2 had a shorter time from BCS to DXT but still falls short of NICE recommendations.

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P137. Negative pressure dressing – Can it save our reconstructions?

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Introduction: Immediate reconstruction following a skin and/or nipple-sparing mastectomy is an appropriate option in selected patients. However, concerns regarding skin necrosis, and management of its complications remain a challenge. Our unit has recently used a negative pressure dressing 'PICO' to manage patients with signs of poor skin perfusion to prevent the loss of the reconstruction. The aim of this study was to describe outcomes of the first cohort of patients for whom this dressing was used.

Methods: Retrospective data of patients, who developed impending skin necrosis following skin-sparing mastectomy where the PICO dressing was applied, was handsearched using medical records and breast care nursing notes.

Results: Between April 2012 and October 2013, we applied nine PICO dressings to areas of impending skin necrosis following skin-sparing mastectomy. Median age was 48 (range 38-65). Five patients (55%) were smokers. The PICO dressing was applied at the first sign of poor skin perfusion (range 2-30 days). In 6 patients (66%), the skin completely healed and perfusion was restored. Mean follow up was 8 months (range 2-16).

Conclusion: Application of PICO dressing may in certain instances prevent the progression to necrosis and its consequences, which include infection and implant extrusion. However, patient selection is important. All three patients for whom the PICO dressing was not successful were smokers to the time of surgery. They all proceeded to a second operation to excise and debride the necrotic skin, and remove implants. We acknowledge that a larger number of patients is needed to prove the efficacy of negative pressure therapy.

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P138. Actinomyces species isolated from breast infections

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Introduction: Actinomycosis is a chronic, invasive granulomatous infection caused by Gram-positive rod-shaped bacteria. Classical Actinomycosis causes deep invasive abscess formation [1]. However, a number of recently described Actinomyces species have been associated with less invasive superficial soft tissue infections. [2, 3, 4]

Lactating breast infections are usually caused by Staphylococcus aureus and other similar organisms commonly associated with skin and soft tissue infections[5]. The etiology of non-lactating breast infections, is more variable and often includes anaerobes and Actinomyces species[6]. The pathogenic role of Actinomyces species isolated from breast infections, and the treatment required for this, has yet to be clearly defined.

Methods: We present all cases of Actinomyces species isolated from breast infections between 2005 and 2013. Data collected on age, infection risk factors, type and number of infections, actinomyces sub-group, method of identification and outcome of infection.

Results: There were 11 culture-proven cases of actinomyces breast infection. See Table 1.

Conclusions: Despite finding 11 cases over 8 years at our centre, we suspect that there were many missed identifications. Actinomyces species are often slow to grow and notoriously difficult to identify using conventional laboratory methods.

Breast abscess samples require prolonged anaerobic incubation (formerly 2 days, now 5 days) in order to increase the likelihood of isolating slower growing Actinomyces-like organisms.

A lower index of suspicion is required to detect actinomyces breast infection, especially in those with chronic or recurring infection, so as to prevent unnecessary surgery and ineffective antibiotic treatment.

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P139. Loco-regional recurrence of breast cancer − Most commonly patient detected

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Aims and objectives: Standard UK practice is to follow up breast cancer patients for 5 years with clinical assessment and mammography based in secondary care. The National Cancer Survivorship Programme proposes that patients be discharged to community follow up on completion of treatment with a supportive educational package. The aim of this project was to determine how loco-regional recurrences were detected in patients treated at our unit prior to changing our follow up practice.

Methods: All patients who presented with loco-regional recurrence of breast cancer between April 2009 and November 2012 were identified prospectively from the MDT database. Not all patients had received primary treatment at our Unit. Data was collected from case note review.

Results: 46 patients had a loco-regional recurrence, 13 had distant disease at presentation. The commonest mode of presentation was patient detection n=29(63%), mammography n=4 (9%), and clinician n=2 (4%) other n=11(24%). Mean age at presentation was 64 years (range 37-84). Median time to relapse was 7 years (range 4 months to 38 years). Surgical resection was performed in 82% (n=27) of patients without distant disease at presentation including 3 radical chest wall resections. 18 patients were alive and disease free at a median follow up of 8 months (range 3-47).

Conclusions: In our study the majority of loco-regional recurrences were detected by patient. The median time to relapse was longer than the current routine follow up period of 5 years. The proposal to omit routine clinical follow up in secondary care is unlikely to lead to the missed detection of treatable loco-regional recurrences.

Table 1

Diagnosis	Risk factors for infection	Organism identification	Number of documented breast infections	Number courses antibiotics	Number of aspirations	Operative management	Outcome at last review
Right inferior mammary fold infection	Diabetes	*Actinomyces Euopaeus*	1	0	0	None	Resolution
Hidradenitis suppurativa	Diabetes, smoking	*Actinomyces Neuii*	2	1	1	I+D under LA	Resolution
Hidradenitis suppurativa	Diabetes, smoking	*Actinomyces Neuii* 8/12/11, *Actinomyces Europaeus* 01/02/12	2	8	1	I+D under LA	Resolution
Left breast chronic abscess	None	*Actinomyces Odontolyticus*	1	1	1	Core biopsies under LA	Patient did not attend follow-up
Infected left sebaceous cyst. Recurrent right breast abscess.	Smoking	*Actinomyces species*	8	7	5	2x I+D under LA Bilateral mammary fistula excision	Ongoing symptoms
Left breast abscess	None	*Actinomyces Radingae*	7	5	3	3x I+D under LA	Resolution
Hidradenitis suppurativa	None	*actinomyces europaeus*	1	1	1	None	Resolution
Left breast abscess	Diabetes	*Actinomyces Europaeus*					
Periductal mastitis	Smoking	*Actinomyces Europaeus*	2	2	3	None	Resolution
Periductal mastitis	None	*Actinomyces Schaalii*	1	4	2	None	Resolution
Infected sebaceous cyst	None	*Actinomyces Neuii*	1	3	2	Excision of breast cyst under LA	Ongoing symptoms

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P140. Total transfer of a contralateral ptotic breast: an alternative method for reconstructing a large chest wall defect following mastectomy

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Introduction: When large residual chest wall defects are left following mastectomy for locally advanced carcinomas, we largely rely on latissimus dorsi reconstructions or other forms of myocutaneous flaps to reconstruct the defect. There may be times however when an alternative is desired due to the co-morbidities of the patient or problems with harvesting the flaps which would lead to too great a donor site morbidity.

Method and Results: We describe the case of an 82 year old lady admitted under our care with a fungating breast cancer. This was managed conservatively for 18 months with primary hormonal therapy due to her co-morbidities. However, due to tumour escape, a toilet mastectomy was required. We report the successful use of transferring the contralateral left breast on a pectoralis major pedicle to cover the residual large defect left by the mastectomy.

Conclusion: The contralateral breast flap is a safe and reliable alternative method of closure in elderly patients requiring mastectomy, who are unfit for myocutaneous flaps.

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P141. Challenges of introducing MRI into breast cancer staging

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Introduction: Breast magnetic resonance imaging (MRI) is increasingly utilised for preoperative staging of selected breast cancer cases. A number of challenges have resulted including delay to surgical treatment and new MRI detected lesions that require further investigation.

Methods: We performed a retrospective audit of all staging Breast MRI scans in our unit from January 2012 to October 2013. Delay due to MRI from diagnosis to surgery was recorded. This was calculated from date of referral for MRI until the date when the report was available. Additional investigation of MRI detected lesions were also collected and analysed.

Results: Breast MRI was performed pre-operatively in 50 patients with breast cancer. Lobular carcinoma was diagnosed in 27 patients (54%). The remaining 23 patients (46%) had complex invasive or non-invasive ductal cancer. The average delay attributed to MRI was 18 days (5-38 days). Second-look ultrasound (US) and biopsy was performed in 14 patients (28%). Of these, US was inconclusive in 2 patients who required referral outwith the region for consideration of MRI guided biopsies. Patients needing further investigations had a further minimum additional delay of 7 days.

Conclusion: Breast MRI, though important in pre-operative staging of complex breast cancer, often results in delays to surgery of several weeks, particularly in patients requiring additional investigation of MRI detected lesions. These delays add to the complexity of appropriately treating breast cancer in a timely fashion and in managing patient's expectations of rapid diagnosis and treatment.

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P142. Experience at the district hospital: Assessment of the sonographically occult macro metastases following sentinel node biopsy. Do we over treat the axilla?

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Introduction: Assessment of the sentinel nodes in breast cancer identifies patients who may benefit from further axillary surgery and adjuvant chemotherapy. Sentinel lymph node biopsy is appropriate for the patients with clinically and radiologically normal axilla.

Aim: To comply with clinical guidelines. To identify number of the US occult macro metastases in patients undergoing SLNB procedure. To assess benefits of further axillary procedures in SLNB positive patients.

Standard: SG for the management of breast cancer: ABS at BASO, 2009. National Breast Screening Audit data 4/2009-3/2012.

Methods: Retrospective analysis of histopathology data following SLN biopsy.

Results: We assessed 565 patients with SLNB procedure during 4/2009-1/8/2013. 100% of the patients had pre-operative US assessment of the axilla. Median number of the nodes was 2 and average 2.3. 142 (25%) patients had positive SLN. Of them 101(18%) had macro and 41 micro metastases. 57 out of 101 patients had metastases size of 5mm and above. 95 (67% of 142) patients had further axillary surgery and 39 (41% from 95) of them had axillary node involvement.

Conclusions: Unit performance consistent with national requirement. Although US occult macro metastases identified during SLNB is lower than national average, we believe that macro metastases of size 5mm and above should be reported. Theoretically, waiting time between US and surgery can be contributing factor for cancers with LVI, G3 and multifocal disease. Due to patients anatomical variations sonographer might not necessary have assessed outer aspect of the breast with "droopy axilla". Frequently positive nodes might lie at outer lower aspect of the breast. Axillary clearance for micro metastases is unlikely to influence overall outcome.

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P143. Length of in-patient stay following latissmus dorsi flap reconstruction

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Introduction: Early Discharge Planning is now a major focus of patient care. Following implementation of the 23 hour mastectomy, breast consultants at Salford Royal strive to also reduce length of stay following Latissmus Dorsi Flap reconstructions (LDF). The objectives of this study were to determine patient length of stay, post-operative complication rates and to evaluate patient experience.

Methods: All patients who underwent LDF reconstruction by one breast surgeon between January 2010 and December 2012 were audited; totalling 29 reconstructions in 27 patients. A satisfaction questionnaire was sent to these patients, with a response rate of 50%.

Results: The results showed a reduction in length of stay by 40.8% over the three year period. 41.7% of patients in 2012 stayed only one night, compared with 25% in 2011 and 0% in 2010. The number of days until drain removal decreased by 53.2% and frequency of seroma drainage decreased by 47.1%. One patient was readmitted through A&E in the peri-operative period with a large seroma. Patient questionnaire responses were generally positive regarding early discharge; patients that stayed only one night reported that they would recommend this to family and friends.

Conclusion: This study confirms length of stay following LDF reconstructions at Salford Royal has successfully been reduced, with no increase in complication rates and no effect on patient satisfaction.

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P144. Axillary nodal burden in breast cancer patients with a positive pre-operative ultrasound guided fine needle aspiration cytology

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Introduction: Recent years have seen dramatic shifts, based largely on the ACOSOG Z0011 study, to conservative management of the axilla in patients with a positive sentinel lymph node. However, positive pre-operative ultrasound guided axillary fine needle aspiration cytology (FNAC) may represent higher axillary disease burden. The aims of this study were to quantify nodal burden in patients with positive pre-operative axillary FNAC and identify patients who may have been spared axillary clearance (AC) based on Z11 criteria.

Methods: A retrospective review of a prospective database identified patients with positive pre-operative axillary FNAC between 2007 and 2012. Demographic, tumour and biological characteristics were analysed. Eligibility for Z0011 criteria was assessed and patients who could have avoided AC were identified.

Results: 432 patients were identified with positive axillary FNAC. 78 patients were excluded leaving 354 for analysis. Mean age was 56 years (range 22 − 87), mean tumour size was 31.3mm (range 4mm − 132mm) and mean tumour pathology was grade 3 (55%) ductal carcinoma (84%). Mean number of nodes removed/positive nodes at AC was 24 (range 1 − 58) and 6 (range 0 − 47) respectively. Mean number of level I/ II/ III positive nodes was 5, 1 and <1 respectively. 135 patients had ≤3 positive nodes identified on AC making them eligible for the Z0011 study. When Z0011 exclusion factors were applied only 29 (6.4%) patients may have been spared AC.

Conclusions: Nodal positivity on pre-operative FNAC is associated with higher axillary disease burden. Few patients would avoid AC in the setting of the recent Z0011 study.

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P145. Management of pleomorphic lobular carcinoma in situ: A systematic review

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Introduction: Pleomorphic lobular carcinoma in situ (PLCIS) is a recently described subtype of LCIS. The significance of this variant is a subject of controversy. It is generally accepted to be a risk factor for invasive disease, as with classical LCIS (CLCIS). However, there is a suspicion that PLCIS may carry a higher risk of progression to invasive disease due to its more aggressive histopathological features. The purpose of this review was to determine whether current guidelines for PLCIS management are consistent with the clinical evidence.

Methods: Electronic literature search of Medline, Embase, the Cochrane database, and the WHO International Clinical Trials Registry Platform were performed using a pre-defined search strategy. Articles were then selected based on relevance to clinical management.

Results: There is very limited data regarding the management of PLCIS (level 3-4 evidence). Nine studies met the inclusion criteria, involving a total of 176 patients. From the pooled data of 7 studies, a core biopsy diagnosis of PLCIS was associated with concurrent malignancy (invasive carcinoma or DCIS) on surgical excision specimen in 59 of 93 (63%) cases. Data from three studies showed local recurrence of PLCIS in 11 of 117 (9.4%) cases.

Conclusion: To date, this is the largest pooled series of clinical data regarding PLCIS. Currently guidelines internationally, are non-specific about the surgical management of PLCIS. Due to the high rate of associated malignancy on surgical specimen and significant rate of recurrence seen in this data, national guidelines should consider PLCIS a lesion requiring excision with negative margins.

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P146. Latissimus dorsi, the forgotten work-horse flap. An investigation of patient reported outcomes in prosthetic and flap-based breast reconstruction

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Introduction: Latissimus dorsi (LD) flaps have been potentially superseded by free flap and, more recently, direct-to-implant reconstruction. Patients still consider the LD favourable.

Methods: Data, including patient reported outcome measures, were collected twelve months after breast reconstruction. Psychological, employing the Hopwood body image scale (BIS), and physical effects of 2-stage implant-based and flap breast reconstruction were examined.

Results: Data for 73 implant-based, 126 LD and 128 TRAM/DIEP patients were analysed. The average age was 60 for LD patients, 48 for implant-based and 49 for TRAM/DIEP patients. Implant-based patients were admitted for 5.1 days. LD and TRAM/DIEP patients stayed for 6.6 and 7.3 days respectively. The average LD reconstruction required 1.6 procedures to complete. Implant-based reconstructions involved 2.5 procedures whilst TRAM/DIEPs required 2.2 operations.

The median BIS Hopwood score, range 0 to 30, was three in implant-based reconstructions and two in flap patients. 90% (113/126) of LD patients, 81% (59/73) of prosthetic reconstructions and 84% (108/128) of TRAM/DIEPs scored under ten on this scale.

52% of LD and 26% of TRAM/DIEP patients reported shoulder and abdominal discomfort respectively. 42% of implant-based patients experienced breast tenderness.72% of LD and 62% of TRAM/DIEP patients found their donor-site scar acceptable. Despite 60% of flap reconstruction patients experiencing donor-site weakness, most were exercising and working. 38% of LD and 54% of implant-based patients had considered revision surgery.

Conclusions: All reconstruction types performed well. LD flaps are reliable, with fewest procedures to complete reconstruction and high patient satisfaction. They remain an important option in breast reconstruction.

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P147. Is staging by Computed Tomography (CT) beneficial in patients with triple receptor negative breast cancer?

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Introduction: Triple Receptor Negative Breast Cancers (TNBCs) are oestrogen receptor (ER), progesterone receptor (PR) and human epidermal growth factor receptor 2 (HER-2) negative and can confer a relatively worse prognosis compared to receptor positive cancers. These patients do not routinely undergo initial staging by computed tomography (CT). The aim of this study was to identify what proportion develops distant metastases over what time period, and to identify if staging CT is useful in directing the treatment pathway for this high-risk group.

Methods: Patients diagnosed with TNBC between 1st September 2003 and 31st August 2013 were identified from a prospective institutional database. Hospital records were used to identify those undergoing staging CT; timing of imaging and reports were collated which included identifying distant metastases diagnosed on imaging.

Results: 259 patients with TNBC were identified during the 10 year period, 93 underwent staging CT (36%). The total number diagnosed with metastatic disease on all imaging modalities (including ultrasound and bone scan) was 62 (24%). 49 staging CT scans identified distant metastatic disease (19%); 29 cases (11%) on the first CT scan. The median and

mean time from cancer diagnosis to metastases was 8.48 and 11.52 months.

Conclusions: Patients with Triple Receptor Negative Breast Cancer are at high risk of developing distant metastases; in those that do, the median number of months from cancer diagnosis to radiological diagnosis of metastases is short. This group should be considered for staging CT prior to commencing treatment as it may alter their therapeutic pathway.

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P148. The use of Acellular Dermal Matrix (ADM) in breast reconstruction: An audit of practice

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Introduction: Implant based breast reconstruction constitutes approximately 37% of immediate breast reconstructions within the UK and can be associated with complications in 40% of cases. The use of Acellular Dermal Matrix (ADM) derived from porcine (Strattice) or bovine (Surgimend) tissue acts as supportive reinforcement to the lower pole around the implant and its use is increasingly popular. It is reported that complications can be higher in ADM reconstructions. However, long-term follow up data is lacking and the ABS guidelines recommend local auditing of cases.

Method: Retrospective analysis of all ADM breast reconstructions in 3 District General Hospitals belonging to the same local breast cancer network over a 3 year period. Data gathered included information on patient demographics, smoking history, significant co-morbidities, BMI, indication for surgery, neoadjuvant treatment and adjuvant treatment following reconstruction, operative information on scar placement, simultaneous axillary procedure, antibiotic prophylaxis, drain protocol, ADM type, size and prosthesis type. Complications were recorded in particular those leading to implant loss, significant infection and tissue necrosis.

Result: 136 ADM and implant based breast reconstructions were performed on 120 patients over 3 years across 3 hospital sites by 7 consultant surgeons. The majority of cases used Strattice with 44 of the cases using Surgimend. Antibiotic and drain protocols varied across sites. Significant complications such as implant loss was seen in 6% of cases, significant infection in 9-13%, and skin necrosis in less than 2% of cases.

Conclusion: ADM reconstruction is a safe and acceptable method of breast reconstruction and our data represents its successful application. Our outcome data is consistent with current literature. However, long-term data is required. National and local audit will provide a platform to evaluate these techniques further and formulate an evidence base for surgical protocols particularly with antibiotic and drain management.

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P149. The utilisation of magnetic resonance imaging in the investigation of invasive lobular carcinoma − A two year experience in two district general hospitals

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Introduction: Invasive lobular carcinoma (ILC) accounts for 10% of breast cancers and is associated with multifocal and contralateral breast involvement. The National Institute of Clinical Excellence (NICE) guidelines in 2009 recommended the use of Magnetic Resonance Imaging (MRI) in the preoperative assessment of ILC. This study aims to assess compliance with the guidelines in two District General Hospitals and the utility of MRI in the investigation of ILC.

Methods: All cases of ILC in 2011 and 2012 were retrospectively identified from the pathology database and their breast imaging findings were reviewed.

Results: 137 patients were identified in the initial search of which 30 patients were excluded as the pathology was Lobular Carcinoma in Situ (LCIS). 107 patients had ILC, of these 41 had MRI preoperatively (38.3%). MRI upgraded mammography/Ultrasound diagnoses in 8 patients (19.5%). MRI showed multifocal disease in 13 patients (31.7%) occult on ultrasound/mammogram, with these patients undergoing mastectomy. MRI showed a contralateral lesion in 9 patients, 4 (9.8%) of which were ILC (5 benign) with these patients having bilateral surgery. MRI also downgraded 4 patients (9.8%) to unifocal disease with reported multifocal appearances on mammography/Ultrasound and MRI findings were confirmed histologically.

Conclusions: MRI is highly accurate in the diagnosis of both multifocal and contralateral disease in ILC and should be undertaken in all such cases preoperatively assuming no contraindication.

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P150. The impact of One-Step Nucleic Acid Amplification (OSNA) on operative efficiency.

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Introduction: NICE recommends OSNA as the intra-operative sentinel lymph node biopsy (SLNB) assessment tool in breast cancer. However, OSNA may have implications on operative time hence affecting number of breast cancer operations performed annually. We introduced OSNA in November 2012 and aimed to assess the number of breast cancer operations performed and the operative times pre and post implementation of OSNA.

Methods: Retrospective review of data from the Somerset cancer register system and the Operating Room Management Information System was carried out. Mann-Whitney U test was used to compare median operative times ($p < 0.05$, significantly different).

Results: The annual number of breast cancer operations performed pre and post-OSNA were 472 and 474 respectively. The median operative time for breast conservation surgery (BCS) plus SLNB was significantly longer in the post-OSNA group by 17 minutes ($p=0.045$). There was no difference in the median operative time for mastectomy (Mx) plus SLNB between the pre and post-OSNA group ($p=0.562$). The median operative time for axillary clearance (ANC) as a separate procedure (post SLNB) was 74 minutes. Considering the additional second procedure, the median operative times for SLNB and ANC was significantly shorter in the post-OSNA group for both BCS and the Mx cohorts by 19 ($p=0.009$) and 62 ($p=0.001$) minutes respectively.

Conclusion: Implementation of OSNA does not influence the annual number of breast cancer operations performed despite a significantly longer median operative time in BCS plus SLNB. The use of OSNA is beneficial considering the avoidance of a second procedure.

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P151. Vacuum assisted breast biopsy: Are we improving non-operative diagnosis of breast disease? District general hospital experience

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Background: Non-operative diagnosis of breast disease is best practice to allow discussion of all treatment options prior to surgical intervention. Core biopsy (14G) will in most cases yield a definitive pathological result, however if the result is indeterminate/ inadequate/ normal, with an abnormal imaging, a repeat biopsy should be performed preferably using a large gauge vacuum assisted biopsy (VAC) device (NHSBSP Publication No.20;4)

Our aim is to evaluate changes in the management of breast lesions following further VAC biopsy and to review the departmental policy for indeterminate pathological wide bore needle results.

Data collection and results: Both symptomatic and screening data were collected from October 2011 to 2013 undergoing stereotactic VAC procedures. 26 women had VAC procedure after initial core biopsy. The histopathology results are shown in Table 1.

Of the 26 women 12 were saved from having surgical procedure for benign lesion. 6 had single stage surgical procedure for malignancy. 6 women who had open excision biopsy after VAC yielded B3 results, showed non-invasive cancer in 3 and rest benign. 2 women were unable to tolerate the procedure.

Conclusion/Action plan: As a result of performing VAC biopsy 18 out of 26 women were saved at least one surgical procedure which is of benefit to the women and also cost-effective.

At the time of this audit, core biopsy showing B3 with atypia used to have surgical excision. Following this audit a new departmental policy has been implemented in discussion with the Breast Pathologist and Surgical team. In that all initial B3 results are to undergo repeat biopsy, preferably VAC.

Table 1
Demonstrates the histopathology of initial core biopsy and VAC biopsy

Pathology	Core Biopsy	VAC
B1	5	4
B2	2	5
B3	17	11
B4	0	0
B5a	1	3
B5b	0	3

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P152. Assessment of full implementation of enhanced recovery program (ERP) within the Breast Unit at the Royal Liverpool University Hospital

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Introduction: The Royal Liverpool University Hospital (RLUH) Breast Unit was one of the national pilot sites introducing the enhanced recovery program (ERP)/23h discharge for non-reconstructive breast surgery in 2010 as recommended by NHS Improvement. Between November 2010 and March 2011, 75% of discharges were compliant and since then ERP has been rolled out to include all breast admissions.

We have re-audited the compliance of admissions, readmission rate and patient satisfaction.

Methods: Data were collected for all procedures undertaken between March and May 2013. Resection type, axillary procedure, length of stay and complications were recorded. The patient population was targeted at pre-op and the management of co-morbidities was maximised with the GP. Patients were given 'discharge' goals and educated with regards to arm physiotherapy, wound and drain management. Nurse-led discharge was introduced. All patients received an individualised discharge summary with a copy to the GP.

Results: Since these new developments, 98.9% of patients were admitted on day of surgery. 98.4% of discharges were compliant with 23 hour discharge in March, 100% in April and 98.9% in May 2013. Readmissions in March and April were 0% and May 3.4%. The management of post-op drains in the community has been successful and well accepted.

Conclusion: ERP within breast surgery is safe and acceptable. Multidisciplinary team input and cooperation are essential. This requires coordination of information with the patient, GP, pre-op, anaesthetic and surgical teams, ward and community staff. Education and patient empowerment via provision of goals has contributed to success.

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P153. The impact of MRI in the surgical management of breast cancer

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Introduction: Breast MRI is now widely available in the UK. NICE guidelines advise breast MRI where there is discrepancy within the findings of triple assessment, where breast glandular density is high, in planning breast conserving surgery and in assessing invasive lobular cancer.

Aim: To assess our unit adherence to guidelines, change in surgical plan and implications in resource management

Methods: A retrospective review of 173 patients who had breast MRI from January 2012 to April 2013 identified on PACS. Data was collected from patient notes on the indications, MRI findings, and whether the surgical plan changed as a result of the MRI.

Results: Eighty-two of the 173 patients that had breast MRI during this period were for investigating newly diagnosed breast cancer and included in the analysis. MRI was performed for: dense breasts (54), lobular cancer (23), radio-occult tumours (4), discrepancy within triple assessment (3), strong family history breast cancer (2), bilateral tumours (2), cancer coincident with breast implants (1), surgical planning (2). 48 patients had additional findings on MRI, and in 24 patients, a change of surgical plan followed. The non-cancer patients (n=91) had MRI for family history surveillance, assessment of breast implant integrity and indeterminate lesions.

Conclusion: Our unit uses breast MRI in accordance with NICE guidelines. Our results show breast MRI provided further information on 50% of the patients and changed the surgical management of 25% of patients reviewed, which mitigates against the disadvantages of 'negative' biopsies.

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P154. Is there a postcode lottery for immediate reconstruction following mastectomy?

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Introduction: Hospital Episode Statistics (HES) collected from London hospitals showed in 2011-2012 only 24.3% of patients receiving a mastectomy went on to have an immediate reconstruction and showed significant differences according to residential area. We compared mastectomy and immediate reconstruction rates at Charing Cross Hospital (where all patients recommended a mastectomy are offered an immediate reconstruction on-site) to those across London.

Methods: Data was retrospectively collected from 2011-2012 for all patients who underwent a mastectomy for DCIS or invasive breast cancer at Charing Cross Hospital, and included demographics and operative procedures performed.

Results: 137 patients underwent mastectomy between April 2011 to April 2012. Of these 38 patients (27%) received an immediate reconstruction (table 1). Only 11 immediate reconstructions were coded appropriately.

Table 1
Types of reconstruction with breakdown of specialties performing procedures

Type of reconstruction	Numbers of patients receiving reconstruction	Percentage performed by plastic surgeons	Percentage performed by breast surgeons
DIEP	28	100%	0%
LD flap	4	0%	100%
Implant only	5	0%	100%

Conclusion: Charing Cross Hospital rates for immediate reconstruction are slightly higher than those across London, possibly reflecting the difference in services for on-site breast reconstruction offered across London hospital trusts. However, errors in coding may account for under reporting of procedures by HES.

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P155. Reoperation rates for cavity shaves following breast conserving surgery

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Background: Traditionally local recurrence (LR) rates have been linked to adequate surgical margins. NICE guideline has not defined the optimum clear margin; hence the substantial difference in the reoperation rates among the English NHS Trusts. However, a meta-analysis in 2010 did not show any significant difference in LR associated with margins of >1, >2, or >5mm. Following this publication, the updated North Trent Breast Cancer Group guidelines (2012) recommend a margin of 1mm for invasive cancer and 2mm for DCIS.

Aim: The aim of this study was to identify the rate and trend of reoperations for cavity shaves following breast conversing surgery (BCS) in Sheffield Teaching Hospitals (STH) before and after the change in regional guidelines.

Methods: The electronic list of all breast operations and reoperations performed between 2008 and 2013 at STH was retrieved. Non-breast conserving surgeries, operations for benign diseases, pure cosmetic/reconstruction operations and cavity shaves done during the first operation were excluded.

Results: There was an increase in the proportion of cavity shaves up until 2011 − from 11% (26/236) in 2008 to 20% (52/259) in 2011. This has sharply and significantly reduced in the subsequent two years, reaching 7.2% (18/250) in 2013 (Chi-square: 19.79, df: 5, p=0.001).

Conclusions: This study demonstrates a significant reversal in the trend towards increasing re-excision for margins in BCS following the introduction of new network guidelines in 2012. This may have an impact on cosmetic outcome and treatment cost whilst LR rates will need to be monitored to ensure adequate disease control.

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P156. Therapeutic mammoplasty with rotation advancement dermoglandular flap − A simple and effective technique

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Introduction: Breast conserving surgery is used for local control of breast cancer in preference to mastectomy wherever applicable. Various techniques of Therapeutic Mammoplasty (TM) are used to allow breast conserving surgery to be performed with better aesthetic and possibly better oncological outcomes.

Aim: We review our Rotation Advancement Dermoglandular Flap (RADF) as simple Therapeutic Mammoplasty technique.

Method: We studied 93 consecutive cases of Therapeutic Mammoplasty performed by a single surgeon over a period of 5 years. The commonest technique used was RADF in 56 cases. The rest included wise pattern technique, Grissotti flap, Bat wing mammoplasty and combination of reduction mammoplasty techniques with or without use of a secondary parenchymal or dermoglandular flap. The study focuses on 56 cases of Therapeutic Mammoplasty with RADF. The technique used is based on simple plastic surgical principle of creating full thickness flap from skin to pre-pectoral fascia after planned resection of the cancer and rotating it to meet the other dermoglandular pillar to reconstitute the breast. The breast sizes varied from A to G cup (Median C cup). The commonest quadrant where the technique was employed was LIQ (24 cases, 46%) followed by LOQ (12 cases, 23%), UOQ (9 cases, 17%), UIQ (7 cases, 13%). The nipple was relocated by de-epithelialisation in 45 cases (86%). 6 patients(11.5%) had DCIS only who did not have any axillary procedures and of the remaining 46 patients 41 had Sentinel node biopsy and 7 Axillary Lymph node dissection. Post-operative outcomes including complications, surgical margins, re-excision rate, cosmetic result and patient satisfaction were examined.

Results: The mean clinical size of the tumour was 21mm (range 8-40mm). The mean histological size of the tumour was 26mm (range 13-51mm) and the mean and median closest radial margins were 6mm and 5mm (range 2.5- 15mm). Mean specimen weight was 58gms (range 32-146gms). Mean operating time was 42 minutes. No haemorrhagic complications were recorded. 3 patients (5.7%) required re-operation (1 further excision and 2 completion mastectomy). 2 patients were treated with antibiotics but no cases of fat necrosis were recorded and there were no cases of local recurrence over a mean follow up period of 28 months. High patient satisfaction and good to excellent cosmetic results were reported by 50 out of 54 patients (96%).

Conclusion: Therapeutic Mammoplasty with Rotation Advancement Dermoglandular flap is a safe technique and can achieve good oncological and cosmetic outcomes with low complication and re-operation rates in the author's experience.

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P157. The role of breast conserving surgery in the treatment of multiple ipsilateral breast cancer: A systematic review

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Introduction: The true incidence of multiple ipsilateral breast cancer (MIBC) may be as high as 30%. The traditional surgical treatment is a mastectomy although some now advocate breast conserving surgery (BCS). The aim of this study was to evaluate and critically appraise the evidence that supported BCS in this context.

Methods: A comprehensive electronic database search was performed to identify complete papers published between May 1998 and May 2013 that reported outcomes of BCS for patients with MIBC. Papers were assessed using a modified Cochrane risk of bias tool.

Results: 19 papers, 12 retrospective studies (RS) and 7 case series (CS) were identified. 4 RS compared BCS in MIBC to BCS in unifocal cancers, 2 RS compared BCS to mastectomy in MIBC and 6 compared both. All 7 case series included MIBC patients undergoing BCS. A total of 1817 patients were included in the 19 papers with a median sample size of 36 (range 7-476). Median local recurrence was 5% (range 0-40%) with a median follow up period of 70 months (range 20-120). No study reported statistically significant differences in recurrence following mastectomy or BCS although 30% (3/10) reported statistically significant differences in

recurrence following BCS in unifocal and MIBC. There was no documentation of margin status in 21% (4/19) or adjuvant treatments in 16% (3/19) of studies included.

Conclusions: There is a paucity of high quality evidence to guide the surgical management of patients presenting with MIBC. Well designed RCTs are required to delineate the role of BCS in this patient group.

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P158. Wide local excision of recurrent breast cancer after primary breast conservation surgery may be an option in a select group of patients

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Introduction: Salvage mastectomy (SM) is routinely performed after ipsilateral breast cancer recurrence (IBCR) following wide local excision (WLE) and radiotherapy (RT). In this study, we present our 10 year experience of salvage WLE after IBCR.

Methods: Case notes of all breast cancer patients who underwent WLE between the years 1999 and 2010 were reviewed. Salvage surgery and its outcome with regards to further recurrence was analysed. Axillary recurrences were excluded from the study.

Results: Out of 3221 operated breast cancer patients between 1999 and 2010, 7% (227) had an IBCR. 34 of these had mastectomy as their primary surgery. Of the 193 IBCR following WLE, 16 were in the axilla. 118 of the 177 IBCR had salvage mastectomy, while 59 had WLE. In the SM group there were 17% (20/118) recurrences (15 on mastectomy scar, 3 in axilla, 2 in supraclavicular fossa) as compared to 27% (16/59) in the WLE group (15 in breast and 1 in axilla). 13 of the WLE group recurrences had SM. Other 2 had 3rd WLE.

Conclusion: WLE of breast cancer recurrence after breast conservation surgery has a higher rate of recurrence as compared to salvage mastectomy. However this can be an option in selected group of patients.

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P159. Is sentinel lymph node biopsy always required when performing a mastectomy for ductal carcinoma in situ?

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Introduction: Approximately 20% of patients with a pre-operative diagnosis of DCIS will have invasive disease on surgical excision and will require axillary staging. The National Institute for Health and Care Excellence guidelines state that patients undergoing mastectomy for ductal carcinoma in situ (DCIS) should undergo concurrent sentinel lymph node biopsy (SLNB). The aim of this study was to investigate if patients, who have undergone wide local excision for DCIS and required mastectomy subsequently, also require SLNB.

Methods: Pathology records were reviewed for all patients undergoing surgery for DCIS between 2007 and 2012, to assess whether SLNB was performed for patients undergoing mastectomy as the initial procedure (group 1) and as a subsequent procedure (group 2) and the frequency with which invasive disease and positive sentinel node biopsy was identified.

Results: Complete histology records were available for 43/51 (84.3%) patients in group 1. 5/43 (11.6%) had invasive disease. 40/43 (93%) patients underwent SLNB. In group 2, 20 patients were diagnosed with DCIS on wide local excision and required mastectomy to obtain clear margins. No invasive disease was identified in group 2. 11/20 patients (55%) underwent SLNB with their mastectomy. No lymph node metastases were identified in either group.

Conclusion: Extensive DCIS requiring mastectomy carries a risk of invasive breast cancer that will require axillary staging. However, patients with only DCIS in the wide local excision were not found to have invasive disease subsequently. Therefore patients undergoing mastectomy as a subsequent procedure for pure DCIS may potentially avoid SLNB.

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P160. What is the diagnostic value of pre-operative breast ultrasound at identifying intraductal papilloma?

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Introduction: Intraductal papillomas are common benign breast neoplasms, which can present with nipple discharge, a central breast lump or via breast screening. Once identified pre-operatively on ultrasound (USS), excision is indicated to differentiate between benign papilloma and papillary carcinoma. The purpose of this study was to evaluate the diagnostic value of pre-operative ultrasound in identifying breast ductal disease including intraductal papilloma in patients undergoing mammary duct excision (MDE).

Methods: Patients undergoing MDE between 1st April 2005 and 31st July 2013 were identified from a prospective institutional database. Electronic hospital records were used to identify patients who had pre-operative ultrasound and post-operative histology reports were reviewed to correlate results.

Results: 91 patients underwent mammary duct excision. 4 were excluded due to incomplete records. 60 of 87 patients underwent pre-operative USS (69%). 13 (15%) of patients undergoing MDE presented with bloody nipple discharge. Fifteen patients had intra-ductal papilloma on post-operative histology (17%). Three were positively identified on pre-operative USS; sensitivity of pre-operative ultrasound in detecting papilloma is 20%. Of 45 patients without papilloma on histology, two had suggestion of a papilloma on pre-operative USS.

Conclusions: Mammary duct excision is performed in the presence of clinically concerning features such as blood stained nipple discharge to identify occult neoplasms including papilloma. In this context diagnostic excision biopsy is still warranted; a negative pre-operative ultrasound scan is not sufficient to exclude the possibility of underlying neoplasm.

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P161. The sensitivity and specificity of pre-operative axillary ultrasound and biopsy when compared to intra-operative node analysis using OSNA

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Introduction: Axillary ultrasound (USS) and biopsy is now standard practice in the pre-operative staging of patients newly diagnosed with invasive breast cancer. Previous studies have documented the sensitivity and specificity of this approach using histopathology as the gold standard. This study is one of the first to determine the sensitivity and specificity when OSNA (Sysmex, Japan) intra-operative (IO) lymph node assessment was used as the gold standard.

Methods: A prospective database of patients undergoing SLNB and IO OSNA node analysis between February 2010 and February 2012 was interrogated. A retrospective review of MDT and radiology records was performed to identify all patients who had undergone an USS and immediate axillary clearance over the same period.

Results: 254 patients who had undergone pre-operative USS staging and received surgery as their primary treatment (including IO OSNA) were identified. 23 (9%) had positive lymph nodes identified using USS.

All were confirmed to have at least one macrometastatic node at axillary clearance. 231 patients (91%) had a SLNB performed with IO OSNA analysis at the time of their primary surgery. 35 (15%) were found to have macrometastases and 26 (11%) were found to have micrometastases on IO OSNA. A sensitivity of 42% was calculated for macrometastases and 28% for both macro and micrometastases combined. Specificity was 100%.

Conclusion: This study confirms that pre-operative USS can achieve very acceptable sensitivities and specificities in the era of IO lymph node assessment. The low sensitivity in the combined group may reflect the ability of OSNA to detect small micrometastatic deposits.

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P162. Factors predicting nipple asymmetry following therapeutic mammaplasty

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Background: Women who undergo bilateral therapeutic mammaplasty (BTM) usually have a modified breast reduction technique and radiotherapy on the cancer side. This may result in nipple asymmetry. The aim of this study was to assess nipple position during follow up after BTM and identify predictive factors for significant nipple asymmetry.

Methods: Standardised digital photographs taken $>$ 1 year post treatment were used to determine the BRA score for nipple asymmetry and the direction of nipple deviation. Asymmetry was correlated with tumour location, mammaplasty technique, extent of resection, and axillary surgery.

Results: The average BRA value in 101 patients treated for unilateral breast cancer with BTM was 2.14 (range 0.2-6.1). BRA values were higher for upper pole cancers. For those women with nipple asymmetry, nipple deviation was usually in the direction of original tumour location. The extent of deviation was greatest for cancers in the upper half of the breast. Lateral deviation was predicted by axillary node clearance. There was no difference related to the extent of resection but vertical pattern mammaplasty produced better BRA scores than wise skin patterns (1.88 vs 2.33).

Conclusions: This study demonstrates that nipple asymmetry may be predicted in some patients undergoing BTM. Surgeons may wish to modify pre-operative planning to anticipate post-operative nipple position change.

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P163. Re-operation rate after breast conservation surgery; are we meeting the guidelines? An audit of service

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Introduction: The Re-operation rate after Breast conserving surgery (BCS) varies between 17-63%. Re-operation may delay adjuvant treatment, may be associated with high rates of local and distant metastasis, cosmetic outcome may not be satisfactory and women undergo increased emotional distress. Re-operation is twice as likely for BCS as for DCIS. Some women undergo more than one re-operation. NICE Guidelines suggest that for DCIS re-excision should be considered if margin is less than 2 mm after discussion with patient. The local/ Network Guidelines state that for invasive cancer a 2mm clear margin should be acceptable.

Patients and Method: An audit of practice of single consultant surgeon at a District General Hospital was performed during a four year period (2007-2011). All Patients who underwent surgery for Breast Cancer were included in the audit. All reasons for re-operation were recorded.

Results: Thirty seven (24%) out of 155 women treated with BCS underwent re-operation for various reasons. Four women out of thirty seven (11%) underwent a second re-operation procedure. Three women had mastectomy as a second re-operation to clear margins. One woman underwent second re-excision for a second focus of cancer. The reasons for re-operation included involved margins (68%), axillary disease (27%) and Phylloides Tumour (5%). Only 4 women (15%) who underwent re-operation for involved margin had residual cancer.

Recommendations: All patients with Breast Cancer should be made aware of the possibility of re-operation following BCS, including the risk of mastectomy. Women should be made aware of the local re-operation rates while making appropriate treatment choices.

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P164. Dermal flap based single stage immediate breast reconstruction

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Introduction: Single stage implant based immediate breast reconstruction is commonly performed with acellular dermal matrices (ADM). Use of lower pole skin as dermal flap (DF) offers a viable alternative to ADMs in appropriate cases with the added advantage of it being autologous and cost efficient. We look into our series of single stage immediate breast reconstruction with Dermal flap.

Method: We reviewed 27 consecutive cases of DF performed over a period of 5 years. All these patients had breast sizes of D cup or above with grade 2-3 ptosis. All had either a planned reduction (23, 85%) or simultaneous delayed reconstruction (4, 15%) of the contralateral side. The procedure involves creating a de-epithelialised dermal sling from lower pole skin, with Wise pattern mastectomy. DF is then stitched to margin of divided edge of Pectoralis major muscle to create pocket for adjustable implant which is usually adjusted, starting 3-4 weeks from surgery. Patients were followed up. Outcomes were prospectively audited. Results were reviewed for cosmetic outcome, patient satisfaction along with complications such as seroma, implant loss, Grade 2/3 capsular contracture rate.

Result: There were no implant loss (one patient successfully treated with antibiotics for soft tissue infection). No cases of grade 2/3 capsular contracture over a mean follow up period of 26 months. Cosmetic outcome as measured objectively were good in 23 (85%) with high patient satisfaction scores.

Conclusion: DF with adjustable implant is a reliable and effective single stage breast reconstruction technique with low complication rates and high patient satisfaction scores.

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P165. Using a web-based on-line tool to manage post-operative breast cancer patients with drains in the community – Is it feasible?

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Introduction: Early discharge with a breast drain in-situ following cancer surgery has no adverse effects and results in greater patient satisfaction[1]. However, few studies explore how patients with drains are managed upon discharge. We conducted a pilot study investigating feasibility of monitoring post-operative breast cancer patients' drains in the community, using an on-line web-based tool.

Methods: A prospective study was conducted between May - November 2013 on all patients discharged into the community with breast/axillary drain(s) following breast cancer surgery, with no exclusion criteria. Patients received a 'unique ID' to log onto a dedicated web-page and submit drain readings. FY1s would be notified instantly through their smartphones and if appropriate, patients were called to attend hospital for removal of drain(s). A 5-point Likert-scale questionnaire assessing satisfaction and experiences was then completed.

Results: Twenty-nine patients were offered enrolment in the scheme, with 21 (72.4%) participating. One patient dropped out before completion. All 20 remaining patients were female (52.9 +/− 12.6 years) and the majority (90%) discharged home with 1 drain. Drains remained in-situ for an average of 5.75 days (3−16 days). All patients expressed satisfaction with the scheme (mean Likert score = 4.64) with 100% indicating they would use the system again and stating it improved their patient experience.

Conclusion: This study highlights the feasibility of a web-based online tool to monitor drains within the community. Overall, feedback was positive with patients reporting feeling "empowered to take control" of their health. Despite obvious limitations of computer access and literacy, patients still participated in the scheme with assistance from relatives. Expanding the interface to portable devices (smartphones and tablets) may increase accessibility and benefit a greater number of patients.

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P166. Positive sentinel nodes: Pattern and predictive value

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Introduction: Axillary staging continues to be an integral part of early breast cancer management in clinically and radiologically negative axilla. However, the role of further axillary dissection in low volume axillary metastasis is now being questioned in view of lack of any survival benefit and increased morbidity from the latter. We review our series of sentinel node biopsy (SNB) to assess outcome of further axillary surgery in positive SNBs.

Methods: We studied 619 SNBs from a prospectively kept database from a period starting from November 2007 to October 2013. Positive SNB were further analysed for further nodal positivity according to number of involved SNs and type of metastasis.

Results: Overall positive axillary status in the series was 128 (20.67%), which included 10 cases of non-sentinel node positivity giving 118 cases where sentinel node(s) were positive. 94 cases had only one positive SN, 74 (78%) had no further positive nodes, while 10 (10.6%) patients each had one additional and two or more additional nodal disease. 20 had 2 positive SNs and further axillary surgery revealed 13(65%) cases with no further nodal disease. In this cohort of 118 cases, 113 had their metastasis classified. 88 had macrometastasis of which 33 (46.6%) had further metastatic deposits; while of the 25 micrometastasis only 4 (16%) had further nodal involvement.

Conclusion: The results in our series showed that large proportion of axillary surgery following SNBs did not yield further disease but patients with SLNB micrometastasis especially does predict significantly lower chance of further nodal involvement.

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P167. Does frequency of CNSs' contacts translate into better patient satisfaction?

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Introduction: With improving survival rate and awareness of survivorship issues, Breast Cancer Nurse Specialists (CNSs) are often under pressure to deliver quality support. However, there is no consensus as to how this can be delivered in an efficient and predictable fashion. We conducted a short survey to see if frequency of contacts led to better satisfaction amongst breast cancer survivors.

Method: 70 patients were given an anonymised questionnnaire by clinicians in the clinics focussing on their satisfaction with CNSs such as their availability and quality of support. All the patients were post treatment and were into their follow up stages. The responses were used to explore the areas of improvement. Somerset Cancer Register (SCR) record of CNS contacts were also looked into to assess areas of support provision by CNSs.

Result: 70 (94%) out of 74 patients returned the questionnaire. 66 (85%) of 70 rated the service. Only 54 (81%) rated the service to be good to excellent with 12 (19%) rating it to be fair to poor. The SCR evidence of telephonic support ranged from 0-25 contacts with a mean of 6.44. Face to face contact ranged from 0-34 (mean-4.5) giving a mean overall contact per patient of 11.71. Mean overall contact in patients rating service poor was 16.4 compared to 9.6 for those who rated it excellent.

Conclusion: The survey highlighted that frequent CNSs contacts do not always lead to better satisfaction and there is a need for better multidisciplinary approach to complex survivorship issues involving primary and sometimes tertiary care.

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P169. Can cyclo-oxygenase-2 be a useful prognostic and risk stratification marker in breast cancer?

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Cyclo-oxygenase-2 (COX-2) is a prostaglandin synthetase that catalyzes the synthesis of prostaglandin G2 (PGG2) and PGH2 from arachidonic acid. COX-2 plays an important role in tumorogenesis of different carcinoma and it is thought to take part in breast carcinoma.

In our study, we aimed to investigate the relationship of COX-2 and clinical parameters such as menopausal status, tumour size, grade, nodal status, Nottingham Prognostic Index (NPI), Estrogen receptor (ER), Progesterone receptor (PR), human epidermal growth factor receptor type 2 (HER-2/neu).

The patients were divided into two groups, first group (Group-A) comprised of 57 primary breast cancer patients and the second group (Group-B) comprised of control group 27 patients consisting of fibro adenoma and benign breast disease.

In control groups COX-2 (0%) is not over expressed and we observed that high frequency of COX-2 (73.68%) over expressed in breast carcinoma. In high grade, large tumour size and positive lymph node metastasis, COX-2 expression rate was 78.6%, 59.5% and 90.5% respectively. COX-2 expression is directly correlated with ER negative (88.1%, $p = 0.001$) and also associated with higher NPI value (78.6%, $p = 0.006$, Fig-4). In Invasive Ductal Carcinoma (IDC) COX-2 over expression had a significant relationship with HER-2/neu over expression ($p<0.001$).

Our results indicated that COX-2 over expression correlates with aggressive phenotypic features, such as high histological grade, large tumour size, higher NPI value, ER negativity and HER-2/neu positivity.

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P170. Apprentice and new start programme: Comparison of two pathways in learning to perform sentinel node biopsy

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Background: Sentinel node biopsy is a critical procedure in the staging of node-negative breast cancer. Training to perform this procedure is associated with a steep learning curve and high false negative rates.

Aims: The aims of the audit were to evaluate two training models; New Start (NS) model and the traditional Apprentice (AP) model of surgical training. The endpoints were sentinel node localisation rates, false negative rates and time to achieve standards.

Methods: Data from consecutive patients undergoing mastectomy or wide local excision between 2007 and 2013 with clinically node negative disease. Patients with recurrent disease, previous radiotherapy or neo-adjuvant chemotherapy were excluded. All procedures were undertaken with blue dye and radiopharmaceutical injection as standard. Axillary node sampling was undertaken simultaneously to determine false negative rates. The data analyst was blinded to the training model.

Results: The localization rates in both models were similar (NS=94.5%(CI 92.1-98.9) vs AP 99.5% (CI 98.1-99.9)). Both training methods had no false negatives. The time to achieve standards (as defined by the NS model) was significantly shorter in the AP model (7.8 months vs 12.3 months, p=0.02).

Conclusions: While there were no significant differences in the standards achieved, AP model of surgical training appears superior to the NS model in the time taken to achieve standards.

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P171. Comparison of combined 18 F-FDG and 18 F-NaF PET/CT vs. 18 F-FDG PET/CT imaging in initial metastatic workup in cases of locally advanced breast cancer (LABC)

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Background: The addition of 18F-FDG PET to the standard work-up of patients with LABC may lead to the detection of unexpected distant metastases of which skeleton is the most common site. 18F-FDG has limitations in detecting osteoblastic malignant skeletal lesions. Bone scintigraphy (with 99mTc-MDP of 18F-NaF) is the routine imaging modality for the diagnosis of osteoblastic skeletal metastases. We combined both the 18F-FDG and 18F-NaF PET/CT into a single study to examine its role in detecting skeletal metastases.

Methods: Female patients with biopsy proven LABC were prospectively evaluated for metastatic disease. All patients underwent 18F-FDG-alone PET/CT scan and a dual tracer 18F-FDG/18F-NaF PET/CT scan within a span of 1 week. In the dual tracer PET/CT scans, focally increased skeletal uptake was read as malignant unless a benign etiology such as degenerative bone disease was noted on the corresponding CT images. Both patient and lesion based analysis was performed.

Results: Out of 55 patients, 32 patients (58.2%) were detected to have skeletal metastases (26 on single and 32 on dual scan). Thus, 6 patients (10.9%) were upstaged from M0 to M1. 14 patients (25.5%) showed additional skeletal lesions on dual scan. 31 additional skeletal lesions were detected in dual tracer scans, of which 19 lesions being osteoblastic in nature, 5 being osteolytic and 7 lesions with no corresponding morphological changes on CT.

Conclusion: Compared to the 18F-FDG only PET/CT scan, the dual tracer 18F-FDG/18F-NaF PET/CT scan showed increased sensitivity for detection of osseous lesions.

http://dx.doi.org/10.1016/j.ejso.2014.02.170

P172. Vacuum assisted excision biopsy for B3 lesions: A single centre experience

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Introduction: Traditionally the majority of B3 lesions proceeded to diagnostic surgical biopsy. However with the advent of Vacuum assisted biopsy (VAB) the number of patients requiring diagnostic surgical biopsy has reduced. We looked at our own experience with this novel technique.

Methods: We retrospectively looked at our own data from the commencement of the usage of VAB in 2008 until 2012. Outcome measures included frequency of diagnostic surgical biopsy, final histological diagnosis and further surveillance of subjects with follow up in outpatients.

Results: In the 5 year period (2008-2012) a total number of 123 patients were identified with B3 pathology. Of these the various histological subtypes identified included Atypical Ductal Hyperplasia (ADH) constituting 39%, Lobular Carcinoma in Situ (LCIS) 26.8%, Papilloma 9.7%, Radial Scar 8.9%, ADH/LCIS 5.6%, ADH papilloma 3.2% and others 6.8%. Amongst the entire group approximately 70% underwent further VAB and only 15.4% diagnostic surgical biopsy. Out of the total 73.1% were assessed at yearly follow up and 13% routine recall which included a follow up every 3 years.

Conclusion: B3 lesions comprise approximately 5% of breast core biopsies and a heterogeneous group of lesions including ADH, ALH, LCIS, and fibroepithelial lesions with atypical features. The positive predictive value for carcinoma following B3 core biopsy is in the region of 25%. Traditionally most B3 lesions proceeded to diagnostic surgical biopsy. Vacuum assisted biopsy is a relatively new technique that permits additional non operative sampling of benign but heterogeneous mix of lesions with low risk of malignant potential.

http://dx.doi.org/10.1016/j.ejso.2014.02.171

P173. The matrix: Strattice vs XCM in immediate implant-based breast reconstruction

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Use of acellular dermal matrices (ADMs) in assisting implant-based breast reconstruction has gained in popularity since they were introduced. There is continuing uncertainty regarding which ADM is 'better'. Complication rates and aesthetic outcomes are important, and ADM costs are also a significant factor. We have compared the use of 2 ADMs in breast reconstruction in a single NHS trust – Strattice™ at a price of ~£1800 per 8x16cm sheet, and XCM™ costing ~£800 per 8x16cm sheet.

A 2 year retrospective review identified 18 patients with 22 immediate breast reconstructions using ADM and implant, 9 using XCM™ and 13 with Strattice™. Both groups received the same insetting procedure and postoperative management.

Infection necessitated removal of the implant and ADM in 1 breast from each group. Red breast syndrome was identified in 1 Strattice patient, and skin flap necrosis resulting in salvage LD musculocutaneous flap (but without removal of the implant/ADM) was seen in 1 Strattice patient. There was no obvious difference in seroma or infection rate.

To date, we have found that using XCM and Strattice have produced similar short term outcomes in immediate implant-based breast reconstruction, with little difference in handling properties and complications. In the current economic climate of reducing expenditure, the significantly lower price of XCM is a very attractive feature.

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P174. An oncoplastic breast MDM: A review of practice

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Introduction: Guidelines recommend reconstructive management decisions are made within a multidisciplinary environment, evidenced with clear documentation.[1] Regular oncoplastic multidisciplinary meetings (MDMs) have been held at RMH since 2007, attended by breast and plastic surgeons, nurse specialists and trainees.[2] The meeting is led by the National Oncoplastic Fellow and cases are presented with standardised photographs in Powerpoint. The study aim was to review MDM activity.

Methods: MDM data from 1st February 2012 until 31st July 2013 was collected retrospectively.

Results: Over 18 months and 36 meetings, 190 cases (median age 50, range 27-77 years) were discussed: 25 mutation carriers/high risk, 27 active cancer, 131 previous cancer (74 treated at RMH) and 7 miscellaneous. Decisions were recorded in 185 (97%) and 170 documented as discussed with patients. Broad discussion categories were: 1) Primary reconstruction 39%: immediate 26% (50), of which half were risk-reduction, and delayed 13% (25); 2) Revisional surgery 60%: post conservation 19% (36); post primary reconstruction 41%, (77); 3) 17 additional cases were presented to provide feedback on previous MDM decisions.

Conclusion: The number of primary reconstructions discussed is low and may be explained by multidisciplinary joint clinics. The oncoplastic breast MDM increasingly provides a forum for discussion of more complex revisional surgery, either post conservation or mastectomy.

1 Oncoplastic Breast Reconstruction Guidelines for Good Practice. Association of Breast Surgery. 2012.
2 Oncoplastic multidisciplinary meetings: a necessity or luxury? Jennifer E Rusby, Jenny Gough, Paul A Harris, and Fiona A MacNeill Ann R Coll Surg Engl. 2011; 93: 4

http://dx.doi.org/10.1016/j.ejso.2014.02.173

P175. An Audit of the predictive value of preoperative axillary ultrasound scan in patients with early breast cancer – A UK centre experience

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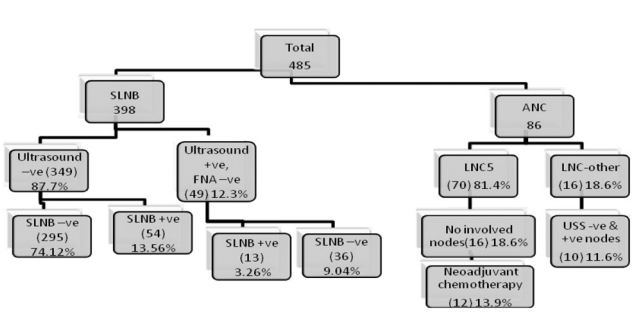
Introduction: NICE guidelines stipulates that all patients to have a pre-treatment ultrasound (USS) evaluation of the axilla. If there is an US abnormal lymph node, then either a fine needle aspiration (FNA) or a core biopsy should be performed.

Our aim was to compare the predictive value of axillary USS between our unit and international data.

Materials and Methods: Symptomatic and screening patients that underwent axillary surgery - SLNB and Axillary clearance (ANC) over a two year period from January 2010 to October 2012 were identified from our prospective surgical database. The patient's radiological and histopathological reports were reviewed.

Results:



SLNB +ve (67) 16.8%			
Histopathology	Micromet (14) 20.89%	Macromet (45) 67.16%	Unspecified (8) 11.94%
Tumour size	T1 (25) 37.31%	T2 (30) 44.77%	T3 (12) 17.9%

Negative predictive value (NPV) and Positive predictive value (PPV) was 84.5% and 81.4% respectively. In 62.7% patients with a positive SLNB who underwent ANC had no further positive nodes identified. 21.4% had further nodes involved and in 15.9% there were no results available

Conclusion: Axillary USS is a very valuable tool and our unit's NPV and PPV are comparable to international data 83.3% and 82.75% respectively

2/3rd of our SLNB+ve patients didn't have further +ve nodes on ANC compared to 1:2 internationally which could be explained by the tumour size. 37.31% were T1. Patient demographics could also explain the difference and thus in our unit adjuvant treatment regimes are individualised.

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P176. Feasibility of preoperative localisation of sentinel lymph nodes in patients with breast cancer using SPIO-enhanced MR lymphography

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Introduction: The SentiMAG Multicentre Trial evaluated a new magnetic technique for sentinel lymph node biopsy (SLNB) and compared it to the standard technique (radioisotope +/- blue dye). In addition to its intraoperative utility, the magnetic tracer also provides contrast on MRI as it is composed of superparamagnetic iron oxide particles (SPIO). An MRI subprotocol of the SentiMAG Trial evaluated MRI for localisation of sentinel nodes (SLNs) and compared this to lymphoscintigraphy and SPECT-CT on the same patients. This is the first report to compare preoperative SPIO-enhanced MR lymphography and magnetic SLNB to preoperative lymphoscintigraphy/SPECT-CT and dual-tracer SLNB.

Materials and Methods: A total of 11 patients were recruited in Medisch Spectrum Twente (Enschede, The Netherlands) after Ethics Approval was obtained. In addition to standard lymphoscintigraphy, SPECT-CT and SPIO-enhanced 1.5T MRI were performed. T1-TSE and T2-GRE sequences were used before and after periareolar subcutaneous injection of 2mL SPIO (Sienna+®, Endomagnetics) diluted with 3mL saline. SLNs on MRI were defined as nodes with a signal drop and direct lymphatic drainage from the injection site.

Results: Of 11 patients: 1 was excluded because the MRI scan could not be completed. In 10/10 patients SLNs were successfully identified by SPIO-enhanced MRI. Lymphoscintigraphy and SPECT-CT identified SLNs in all patients (11/11). There was good correlation between the number of SLNs on preoperative MRI and intraoperative SLNB.

Conclusion: SPIO-enhanced MR lymphography is feasible for preoperative localization of SLNs, thereby offering an entirely radiation-free alternative for SLNB. Further evaluation is needed for characterisation of involved lymph nodes.

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P177. Re-excision of margins: Always a necessary procedure?
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Introduction: Any breast procedure can prove to be a very stressful and worrisome ordeal for a patient: especially if it is a second or follow up procedure. One such procedure would be re-excision of margins (ReM) after a wide local excision (WLE), with suspicious histology at or near the original specimen margin. With the patient having undergone initial surgery for removal of a lesion, they then have the worry of having to undergo a second surgical procedure with the local risks and risks of general anaesthetic.

Method: We retrospectively reviewed 326 cases of ReM over six years, between 2007 and 2013. We looked at each case, seeing what were the histological margins at the initial WLE specimen and whether or not the further ReM histology were clear, satisfactory or required further ReM.

Results: 186 cases (n=326) or ReM showed clear margins with no evidence of carcinoma in situ, invasive carcinoma or atypical hyperplasia at the new margin. 85 cases showed either carcinoma in situ, invasive carcinoma or atypical hyperplasia (or a combination) within an accepted margin of >2mm from edge of specimen. 55 cases had either carcinoma in situ, invasive carcinoma or atypical hyperplasia (or a combination) at or <1mm from resected margin. [Further breakdown margin size data available]

Conclusion: Given that a large amount of our study (43%) had a suspicious lesion present in the ReM specimen, it does show the importance of going back to re-excise suspicious and close margins. However, almost 57% of all ReM cases had clear histology, leading to the question of possibly unnecessary prodedures and worry for the patient for an already cleared lesion at inital WLE.

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P178. Breast reconstruction in the 'elderly' − A feasible reality
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Introduction: The national population continues to age, but advances have allowed safer surgical treatment for breast cancer in older women. Post-mastectomy reconstruction is an important part of holistic treatment but does involve lengthier surgery and carries added risks of potential complications. Evidence has shown that age itself is not a risk factor for poor surgical outcomes, but concern over this causes surgeons to be wary of offering elderly patients the opportunity of reconstruction.

Methods: We examined our local reconstructive database between January 2009 and December 2012 (including breast reconstruction and/or symmetrisation) with regards to demographics and post-operative complications. Demographic data was compared with national data gained via Hospital Episode Statistics.

Results: 129 reconstructions and 85 other oncoplastic procedures were performed over this time period. The mean age at diagnosis of breast cancer was 60 years, compared with 56 years nationally. The local reconstructed population contained a higher-than-national proportion of patients over 65 years and 75 years. 17 surgical complications documented: 1 (0.4%) loss of implant to infection, 1 (0.4%) iatrogenic pneumothorax, 5 (2.2%) wound infections, 6 (2.7%) partial wound breakdowns, and 4 (1.8%) returns to theatre for bleeding.

Conclusion: Population demographics vary nationally. The choice of reconstruction candidate should be based on objective measures of surgical fitness, taking into account type of reconstruction and patient choice. In line with national recommendations, our unit discusses reconstructive options with all appropriate candidates, irrespective of age. Breast reconstruction in the 'elderly' is a reality, and is feasible without an excess of complications.

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P179. Use of oncoplastic techniques for breast conserving surgery
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Introduction: Statement 3 of NICE Quality Standards (QS12) states that: People with early breast cancer undergoing breast conserving surgery, which may include the use of oncoplastic techniques, have an operation that both minimises local recurrence and achieves a good aesthetic outcome.

To assess compliance with this statement a four month audit of breast conservation, at the Countess of Chester Hospital, was conducted.

Methods: Case-notes on all patients undergoing breast conserving surgery (BCS) for breast cancer were identified and type of operation performed and histological results were collected.

An oncoplastic excision was defined as an operation with an incision placed off the breast mound in the circumareolar region, inframammary fold or using a breast reduction technique.

Results: Of 39 cases, 20 (51%) patients underwent BCS using an oncoplastic technique. Of these 8 (40%) required re-excision to clear margins. This was a higher re-excision rate than the standard wide local excision (21%), but still in keeping with national standards.

Excluding therapeutic mammoplasties (3), the average weight for the oncoplastic group was 47.71g which is lower than the standard group (59.46g).

There was a positive association between the extent of DCIS in the specimen and the re-excision rate.

Conclusions: The higher re-excision rate in oncoplastic incisions may be due to intra-operative difficulty with an incision remote to the lesion. Surgeons should ensure that oncological safety is not compromised when planning an oncoplastic excision.

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P180. Invisible DCIS; gaining an insight into the unknown
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Introduction: Re-operation rate following breast conserving surgery (BCS) is 20%. Where histological size is far greater than on pre-operative imaging, the term "invisible DCIS" may be applied. This is extremely problematic; the true extent of disease is unknown. There is a paucity of evidence into this topic. We investigated invisible DCIS cases in our centre, gaining insight into this group of patients whom little is known about.

Methods: Data was collected from pathology and theatre records on all patients between Jan 2011-2013 who underwent BCS. Radiological and histological sizes were compared. Invisible DCIS cases were assessed for patient and tumour characteristics, regression analysis was used to identify any correlations.

Results: A total of 508 BCS were undertaken. Re-operation rate was 15%. Of these cases, 58 were undertaken for residual disease. In the remaining 17 cases requiring re-operations, "invisible DCIS" was found. The rate of invisible DCIS following BCS was therefore estimated at 3.3%. The mean age was 58. In 11 cases there was an absence of calcification on core.

Conclusion: Invisible DCIS is uncommon but does contribute to re-operations following BCS. This is distressing for patients and poses the additional anxiety surrounding future surveillance. As this is uncommon our data is too few to fully form conclusions as to how these cases can be better predicted. Given the low estimated occurrence of invisible DCIS following BCS, we would advocate a multi-centre study to gain a better insight into this troublesome condition.

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P181. Loco-regional breast cancer recurrences: Some are diagnosed by clinical follow up

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Introduction: Part of the purpose of clinical follow up of breast cancer patients is to detect loco-regional recurrence not perceived by the patient and not visible on mammography. The utility has been widely debated in the literature. ABS at BASO in 2009 recommended individualised follow up, both radiological and clinical, tailored to the course and length of adjuvant therapy. The American Society for Clinical Oncology in 2006, demonstrated a lack of survival benefit from clinical follow up, and questioned the efficacy of clinical review. NICE has recommended three years as a standard duration of annual review. Many breast units have greatly reduced outpatient follow up practice.

Methodology: A retrospective database analysis of all loco-regional recurrences diagnosed in our Unit from 2004 to 2013 was performed. Outcome measures included, date of initial diagnosis, surgery, histology, adjuvant therapy, clinical follow up and mammography results.

Results: There were 155 loco-regional recurrences, 51% (79) occurred within the initial 5 years. Of those recurrences, 63% (50/79) were identified by patients. 19% (15) were identified on imaging with 18% (14) identified on clinical examination. Of the recurrences identified clinically. Of the clinical recurrences, 50% (7) had undergone a mastectomy and 50% (7) had wide local excisions as their initial operation.

Conclusion: The number of loco-regional recurrences detected on routine clinical follow up is a very small percentage of the total breast cancer cohort, but it is not zero. Does patient information governance require patients and commissioners to be openly aware of this fact?

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P182. Pre-operative staging of the axilla

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Pre-operative axillary ultrasound (POAUS) and biopsy of abnormal nodes is recommended for all women with breast cancer. We have previously reported a sensitivity of 42%, related to extent of nodal disease. Sentinel lymph node biopsy (SLNB) aims to identify remaining node positive cases, most of which will have only 1 or 2 nodes positive.

Aim: To improve the pre-operative staging of the axilla, and better facilitate case selection for completion axillary node clearances.

Method: Patients with operable primary invasive breast cancer from 1 May 2013 onwards all had POAUS. High risk cases were selected for second look POAUS according to study criteria. Findings were correlated with the surgical pathology.

Results: To date, 211 patients have undergone first look POAUS. 64 (30%) underwent biopsy, of which 37(57.8%) were malignant. 9 patients had a second look POAUS, (8 underwent biopsy, 2 were malignant). 194 patients were offered surgery, 20 of which had neoadjuvant chemotherapy. 17 had non-operative management. All women with a positive POAUS biopsy underwent ANC (19 to date): 7 had 1 node, 3 had 2 and 9 had 3 or more nodes positive. 154 women have had SNB to date: 125 were node negative, 26 had 1 node, and 3 had 2 nodes positive. To date no false negative POAUS case had more than 2 nodes positive on final pathology. The overall sensitivity, specificity of US-guided biopsy was 51% and 100% respectively.

Predictors of false negative POAUS included; advanced age, tumour size>20mm, high grade and vascular invasion.

Conclusion: This study has shown a sensitivity of 51% for POAUS. POAUS appears to correctly identify women who are most likely to benefit from ANC.

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P183. Autologous free-tissue reconstruction may be the preferred option for primary breast reconstruction

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Introduction: Over the past decades there has been an increase in autologous tissue flap reconstruction after mastectomy for both breast cancer and non-cancer cases. The purpose of this study was to investigate the conversion rates from implant-based to autologous free-tissue breast reconstruction, indications for the conversion, and operative outcomes of subsequent free-perforator flap (DIEP and MS-TRAM) breast reconstruction.

Methods: All patients who underwent autologous free-tissue breast reconstruction following unsatisfactory implant-based reconstruction in our unit between 2006 to 2013 were identified. Data for indication of initial implant-based reconstruction, numbers of episodes of previous implant revision, reason for conversion to autologous free-tissue reconstruction and post-operative complications were examined.

Results: 52 patients were identified. 48 patients had initial implant based reconstruction following mastectomy for breast cancer and 4 patients for non-cancer reasons. 56 abdominal free-perforator flaps were performed (48 DIEP, 8 MS-TRAM). Indications for conversion to autologous free-tissue reconstruction included Baker Grade III/ IV capsular contraction 23.5%, breast asymmetry 27.4%, implant rupture 11.8%, infection 5.9% and implant extrusion 1.9%. 37% patients had undergone multiple procedures secondary to implant-related complications. 9 out of 50 flaps required immediate return to theatre due to complications, 1 flap failed.

Conclusion: Our experience shows that significant numbers of patients with unsatisfactory implant-based reconstruction convert to autologous free-tissue breast reconstruction. This therefore suggests that autologous free-tissue reconstruction may be the preferred option for breast reconstruction in the first instance.

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P184. Axillary ultrasound and FNAC/biopsy 'Versus' The West Midlands cancer intelligence unit prediction score: Which is more accurate at pre-operatively staging the axilla for breast cancer?

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Introduction: Pre-operative staging of the axilla in breast cancer patients is essential for deciding initial surgical treatment and often avoids the need for a second operation. The aim of this study was to evaluate pre-operative axillary ultrasound and FNAC/biopsy and the West Midlands Cancer Intelligence Unit (WMCIU) prediction score in assessing axillary node status in screening and symptomatic patients.

Method: We performed a retrospective analysis of 206 patients diagnosed with breast cancer. Data collected included preoperative and postoperative axillary node status, and requirement for further treatment. WMCIU prediction scores were calculated and the proportion of patients that pre-operative staging correctly identified was ascertained.

Results: Axillary disease was present in 85 (41%) patients: 13% of screening patients, 87% of symptomatic patients. WMCIU prediction score correctly identified 43 (51%) of these patients whereas preoperative axillary ultrasound and FNAC/biopsy correctly identified 33 (39%). Sensitivity and specificity of preoperative axillary ultrasound and FNAC/biopsy: screening group, 100% and 100% respectively, and symptomatic group, 76% and 83% respectively. Sensitivity and specificity of WMCIU prediction score: screening group, 38% and 88% respectively, and symptomatic group, 54% and 43%, respectively.

Conclusion: Symptomatic breast disease is more advanced than in the screening population. Axillary ultrasound and FNAC/biopsy is more accurate at identifying axillary disease compared to WMCIU prediction score in both groups of patients. However, the percentage of false negative

results of ultrasound and FNAC/biopsy was high at 13% and therefore, remains an inadequate definitive predictor of axillary node involvement.

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P185. B3 pathologies and malignancy – Which are the risk lesions?
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Introduction: The term B3 comprises a heterogeneous group of pathologies with varying malignant potentials. Some subsets of this group (e.g. AIDP), have reported malignancy rates at surgical excision of 30-40%. Other subsets (e.g. LCIS) have comparably lower surgical rates of malignancy. Optimum management of this pathological group remains unclear. Open excision is regarded as the gold standard for definitive diagnosis, however Vacuum Assisted biopsy (VAB), with larger volume sampling, is an emerging viable alternative.

Here, we review B3 pathologies in a screening population to assess and compare the predictive value of malignancy from core biopsy, and VAB, against surgery.

Methodology: A retrospective database analysis was undertaken, of B3 lesions on initial core biopsy in our screening population who underwent 2nd line VAB.

Results: Pathological diagnoses and upgrade rates to malignancy by VAB / open surgery of original core biopsy are depicted in the table below.

366 patients were identified, with B3 on core biopsy. 294 went on to have VAB, of those, 73 subsequently had surgical excision.

AIDP was upgraded in 46% from B3 to B5a / B5b diagnosis from core biopsy. FEA shows a 15% upgrade and ALH / LCIS show 16% upgrade. Papillomas without atypia on core biopsy were upgraded in 7.6%, but if atypia was present, one third were malignant.

Conclusion: AIDP on core biopsy is a risk factor for malignancy. With established predictive values for malignancy in B3 lesions from large volume biopsy such as VAB, the MDT may be guided to determine definitive management of this difficult pathological entity.

Core Pathology	Patient Numbers	% Malignant on VAB	% Malignant at Surgery
FEA	55	15%	
DEA+AIDP	38	16%	3%
AIDP	40	40%	6%
ALH/LCIS	30	6%	10.%
Pap+atypia	3	33%	
Pap no atypia	52	8%	3%
Rs+atypia	1	0	33%
RS no atypia	27	0	
other	30	7%	4%

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P186. Results following a benign breast biopsy – A breast care nurse led "virtual" telephone clinic
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Introduction: A percentage of core biopsies are performed in the one stop clinic knowing the histology will almost definitely be benign. As this accounts for up to 16% of lesions sampled in our centre, we wanted to relieve capacity in clinic, improve the patient pathway and reduce patient waiting times by introducing a telephone results clinic for benign results. We report on our 6 month experience of this new "virtual" clinic.

Methods: Patients presenting with a benign clinical examination and imaging and undergoing core biopsy were offered telephone results. Exclusion criteria included a positive family history, hearing impairment or learning difficulties. All patients were seen by a Breast Care Nurse, accepted a date and time for the telephone call and were given the relevant written information. The new protocol included a caveat to revert to a clinic appointment should the biopsy results not be benign.

Results: From 1/6/2013 to 1/12/2013, 50 patients met the criteria for telephone results. 49 had confirmed benign (B2) pathology of which only 1 was not available at the time of telephone contact and was informed of her result by letter. 1 patient had a normal (B1) result and required a clinic appointment for review. She was subsequently discharged.

Conclusions: Our experience has shown that a telephone results clinic is appropriate when protocols for biopsy are followed. A prospective review of patient satisfaction is being undertaken to further evaluate this service.

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P187. Clinical coding improving payment by results in breast surgery
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Background: The Audit Commission's Payment by Results data assurance framework found significant levels of error at both the clinical coding and the Healthcare Resource Group levels. The most common factor found to contribute to errors was the quality of the source documentation. This included illegible or poorly structured case notes and insufficient information included on patient records. In August 2013 a new operation sheet was implemented in the Breast Surgical Unit at Aintree Hospital. This operation sheet included a range of operations with its codes. It also has a range of co-morbidities available to be marked by the surgeon when applicable.

Aim: This project aimed to identify improvement in clinical coding in breast surgery including surgical procedures and co-morbidities and to identify potential sources of error on clinical coding.

Methods: All operations performed between 1/08/2013 and 31/10/2013 were analysed. The new operating proforma was analysed against the clinical coding. Accuracy of clinical coding and compliance with the proforma was assessed.

Results: Sixty case notes were analysed. Three (5%) coding co-morbidity errors and 2 (3%) OPCS recording errors were found. Those were mainly due to omission of diagnosis and procedures. Only one was due to overestimation of the procedure. There was an improved accuracy of coding compared with results from the same period on the previous year when the operation sheet proforma was not in use. The errors were reduced by approximately 50% and did not have a financial impact on HRG.

Conclusion: Implementation of the new operation sheet improved the efficiency of clinical coding and reduced the risk of inaccurate clinical coding. There was a greater accuracy in the payment by results with a clear financial benefit to the Trust.

- The financial benefits to the Trust include not only greater accuracy in PbR returns but better returns for the investment in the clinical coding department.

http://dx.doi.org/10.1016/j.ejso.2014.02.186

P188. Learning curve associated with immediate Strattice based implant reconstruction
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Introduction: There have been variable accounts of the complication rate associated with Strattice based reconstruction. In Liverpool with the introduction of Strattice for immediate implant based reconstruction we have seen a clear 'learning curve' demonstrated amongst the 4 experienced reconstructing surgeons.

Methods: We have kept a complete comprehensive prospective database of all Strattice reconstructions including patient demographics, operative details, complications and patient reported outcomes.

Results:

Surgeon	Number of Strattice Reconstructions	Implant Loss (%)	Implant Loss Excluding first Five patients	Wound Dehiscence
1	23	0	0/18	5
2	18	1	0/13	3
3	10	1	0/5	1
4	14	1	0/9	0
Total	65	3(4.6%)	0/45	9 (13.8%)

Conclusion: We have demonstrated an acceptable implant loss rate with the use of Strattice to augment primary implant based reconstruction. All three implant losses occurred within the first five patients for each surgeon demonstrating a clear 'learning curve' in our hands despite the experience of all the surgeons with traditional primary implant based reconstruction. We have found that minor wound dehiscence occurs much more frequently than with traditional implant reconstruction, but can be successfully managed with early scar revision, and negative pressure 'Pico' dressing.

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