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P001. AN AUDIT OF PATIENTS UNDERGOING NEOADJUVANT CHEMOTHERAPY AND ANALYSIS OF NODAL DISEASE TO GUIDE MANAGEMENT

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Introduction: For patients recommended neo-adjuvant chemotherapy (NAC), current practice for involved lymph nodes (LNs) at diagnosis is performing axillary node clearance's (ANC's). We have audited our practice to assess the level of axillary node disease on diagnostic ultrasound and post NAC pathology and reviewed how this information may guide management.
Method: Data was collected from breast-cancer patients who underwent NAC 2014-2018. All suspicious nodes were core biopsied. Further categorisation was performed for those with LN involvement at diagnosis along with tumour biology.
Results: 266 patients underwent NAC; pre-operative ultrasound nodal statuses included:

- No LN involvement - 120 patients (Group1) – (Sentinel Node biopsy (SNB))
- LN involvement - 146 patients (ANC):
  - 40 patients 1-2 LNs involved (Group2:low burden)
  - 106 patients ≥3 LNs involved (Group3:high burden)

GROUP 1

- 19/120 patients had involved SNB's:
- Majority (89%) had low disease burden
- 10 patients underwent ANC's
  - 3 had further disease

Total, 118 patients (98%) had no, or low disease burden

GROUP 2:

- 40 patients:
  - 14 patients had nodal PCR
  - 17 patients had 1-2 LN's residually involved
  - 9 patients had ≥3 LNs residually involved (8 were ER+)

GROUP 3

- 106 patients:
  - PCR in 33 patients
  - 20 patients reduction of LN involvement
  - 53 patients had high burden of axillary disease

Conclusion: Pre-NAC ultrasound is 93% accurate in identifying no or low burden axillary disease. This preliminary information could be used to inform future work in NAC patients with individualised axillary management pathways based on risk profile.

P002. ONE STEP NUCLEIC ACID AMPLIFICATION SENTINEL LYMPH NODE SAMPLING AS A PREDICTOR OF AXILLARY NODE STATUS IN EARLY INVASIVE BREAST CANCER: A UK SINGLE CENTRE EXPERIENCE

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Introduction: RD-100i One-Step Nucleic Acid amplification (OSNA) system analyses and amplifies mRNA from solubilised sentinel lymph node sampling (SLN) by detecting the level of expression of the cytokeratin-19 gene (CK19), an epithelial marker associated with breast cancer, giving a total tumour load (TTL) defined as the number of mRNA copies of CK19 (copies/μmol/L) . TTL indicates the presence of micro or macrometastases, allowing the surgeon to intraoperatively proceed to axillary node clearance (ANC) where positive. Evidence has shown OSNA copy number to be a predictor of axillary node status and survival.
Methods: A retrospective single centre cohort study of 728 patients undergoing wide local excision or mastectomy for early invasive breast cancer with intraoperative OSNA SLN or SLN preceding neoadjuvant chemotherapy was performed. Data was collected on tumour type, grade, size, presence of lymphovascular invasion, number of lymph nodes sampled, TTL, and histological metastases where ANC performed. TTL ≥5000 was taken as macrometastasis, and 250< TTL <5000 was taken as micrometastasis, TTL≥250000 was stratified as high risk.
Results: 723 patients underwent SLN sampling using OSNA. 17.2% (n=124) had macrometastases, 7.5% (n=54) had micrometastases. All patients with macrometastases underwent ANC and 61/124 had further histological lymph node metastases. Univariate logistic regression showed that (log) TTL was positively associated with further axillary lymph node metastases (p=0.607). High risk TTL carried OR=1.38 for further axillary metastases.
Conclusion: TTL using OSNA is a predictor of axillary node status in our patient population with early invasive breast cancer, supporting current evidence.

P003. EFFICACY OF IMMEDIATE AXILLARY CLEARANCE (AC) IN METASIN POSITIVE SENTINEL LYMPH NODE (SLN) BIOPSY ASSAY: A LARGE SINGLE CENTRE EXPERIENCE

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Introduction: Intra-operative assessment of the SLN allows an immediate AC to be performed in Metasin positive macrometastases (macro) patients. Surgical management of macro vs micrometastases (micro) is different. Differentiating between macro and micro is therefore essential and this can be done by intraoperative Polymerase Chain Reaction assay (qRT-PCR). The aim of this study is to assess the efficacy of immediate AC in Metasin positive patients.
Methods: The Metasin assay is an intraoperative molecular test which utilizes qRT-PCR to detect two predictive markers of metastases, Cytokeratin 19 (CK19) and Mammaglobin (MGB). Alternate 2mm slices of SLNs were tested with Metasin and the remainder by routine histological

examination. Micro was defined as tumour deposit between 0.2mm and 2mm and macro over 2mm on histology.
Results: 230 of 1255 patients (18%) proceeded to immediate AC and were spared a second operation. 183 patients (80%) were macro and 47 (20%) micro on Metasin. 9 of 1255 patients (0.7%) underwent a delayed AC as histology of SLNs showed macro. Out of these, 4 were negative and 5 were micro on Metasin. 38 of 43 Metasin micro patients (88%) were spared an axillary clearance.
Correlation of Metasin vs histology - immediate ACs

Histology / Metasin	Negative	Positivity in SLNs ONLY	Positivity in at least ONE N-SLNs	Total
Macrometastasis	43 (23.5%)	98 (53.5%)	42 (23%)	183
Micrometastasis	37 (78.7%)	8 (17%, micro)	2 (4.3%, micro)	47
Total	80	106	44	230

Conclusions: Differentiating between macro and micro helps decide appropriate surgical management of the axilla. Fewer patients with Metasin macro should have AC. Patients with Metasin micro should not have AC.

P004. INTRAOPERATIVE ASSESSMENT OF SENTINEL NODES IN MASTECTOMY PATIENTS

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Introduction: Intraoperative sentinel node assessment was routinely offered to patients undergoing curative breast surgery with negative preoperative nodal status. Our previous audit showed 34% patients undergoing mastectomy had positive OSNA results. Axillary radiotherapy is now increasingly being offered to node positive patients with one or two positive sentinel nodes. The aim of this audit was to assess the rate of positive sentinel nodes in patients undergoing mastectomy.
Methods: A retrospective audit of patients who underwent mastectomy from January 2015 to December 2017 was carried out. Mastectomy patients were identified from the Somerset Cancer Database, operative details and axillary treatment was recorded from the electronic patients record and analysed.
Results: Of the 461 patients who underwent mastectomy, 183 patients underwent sentinel node biopsy and OSNA. Amongst the OSNA group, thirty five patients (19%) had positive sentinel node and underwent axillary clearance. Seventy one percent of these patients had only one or two positive nodes on final histology where axillary surgery could be avoided. On an average, only 3 patients per annum had more than 2 involved nodes on final histology who would benefit from further axillary treatment.
Conclusion: Majority of patients with OSNA detected positive sentinel nodes had low nodal disease burden which could be easily managed with radiotherapy rather than axillary clearance.

P005. AXILLARY RADIOTHERAPY IS NON INFERIOR TO COMPLETION AXILLARY CLEARANCE IN PATIENTS WITH POSITIVE SENTINEL LYMPH NODE BIOPSY - A SINGLE-CENTRE OBSERVATIONAL COHORT STUDY

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Introduction: A decade ago, gold standard treatment for patients with a positive sentinel lymph node biopsy (SLNB) was completion axillary node clearance (cANC). Recently, this practice has been challenged, with several studies showing comparable outcomes following axillary radiotherapy or systemic treatment for limited nodal disease. Results of trials such as POSNOC are awaited. Our aim was to study outcomes of SLNB-positive patients treated with or without cANC or in our unit.
Methods: This is an observational cohort study of all SLNB-positive patients treated for invasive breast cancer at a single centre between 2010-2012. Data were collected retrospectively from patient records. Primary outcomes were axillary recurrence (AR), overall survival (OS) and disease-free survival (DFS).
Results: Of 289 patients, n=129 patients proceeded to ANC (cANC group). N=160 did not undergo ANC (noANC group), of whom 91.2% had radiotherapy to the axilla. Median follow up was 76 months (IQR=69-87). AR was 1.6% in the cANC group and 1.9% in the noANC group (p=0.83). Kaplan-Meier analysis demonstrated that OS did not differ significantly between groups (cANC: 81.4%, noANC: 86.2%, p=0.26) and neither did DFS (cANC: 85.3%, noANC: 93.8%, p=0.12). There was no significant difference in the proportion of Grade 2 or 3 cancers and ER-/Her2+ tumours.
Conclusion: In our cohort, outcome following axillary irradiation was non-inferior to cANC in terms of AR, OS and DFS at 6 years. While the groups were not matched in terms of prognostic factors, this study provides encouraging real-life data to support further research into more conservative axillary treatment.

P006. DOES THE TOTAL TUMOUR LOAD (TTL) AS DETECTED BY ONE STEP NUCLEIC ACID AMPLIFICATION (OSNA) PREDICT NON SENTINEL NODE POSITIVITY?

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Introduction: It has been suggested that TTL can be used to predict non-sentinel node positivity in breast cancer by dividing patients into low (TTL<$2.5x10^4$) and high risk categories (TTL>$2.5x10^4$). This is of increasing relevance as there is a move to more conservative axillary treatment in the post ACOSOG Z0011 era. Our objective was to test this theory for validity.
Methods: A retrospective review of all OSNA cases performed in Glan Clwyd Hospital since 2015. Data collection included patient and tumour demographics, sentinel node results, total tumour load, non sentinel node involvement.
Results: Eighty four OSNA procedures carried out on 80 patients, mean age 62 years. Tumour type 53(63%) IDC, 9(12%) ILC, 6(7%) Tubular, 3(4%) DCIS, 10(13%) others. Tumour grade 1 8(9%), grade 2 37(44%), grade 3 36(43%), in-situ 3(4%). Mean invasive size 25.7mm. Er positive 60(71%), negative 22(26%), unknown 3(4%); Pr positive 51(60%), negative 31(36%), unknown 3(4%); Her2 enriched 8(9%). Mean number sentinel nodes harvested 1.6 (range1-4); 20 patients had micrometastases, 21 patients had macrometastases, 19 patients had ANC. At ANC mean nodes excised 9.1(range5-14). TTL mean score 635076(range 260-5994620; median 10900).
Non-sentinel node involvement in 47% of ANC cohort. Non-sentinel node involvement was seen in two thirds (66.6%) of high risk patients (TTL>$2.5x10^4$) as opposed to only 30% of those deemed low risk ($p<0.000001$).
Conclusions: TTL identified a high risk population in our cohort. We propose a multicentre study to confirm the findings.

P007. RADIOLOGICAL VERSUS PATHOLOGICAL RESPONSE OF THE AXILLA TO NEOADJUVANT CHEMOTHERAPY: ASSESSING THE ACCURACY OF MRI RESPONSE PREDICTION

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Introduction: Neoadjuvant chemotherapy (NAC) can be used to downstage breast cancer and axillary disease to facilitate more conservative surgery. It is important to determine an imaging modality that can accurately determine which patients are appropriate for conservative treatment. This study aims to measure the accuracy of MRI in assessing the radiological response of axillary disease to NAC.
Methods: Retrospective data collection from a single institution, including all patients who underwent axillary node clearance (ANC) following NAC between May 2014-November 2017.
Results: 45 patients were included. Radiological complete response (rCR) was seen in 15 patients (33%). Four of these patients (27%) had 1-2 macrometastatic nodes on pathology, and three of these patients had $\geq$3 macrometastases (20%). 17 patients (38%) had pCR on ANC. Eight patients

as described previously had a rCR in their axilla (44%), and 9 patients (53%) had ≥1 positive axillary nodes on MRI following NAC. Discrepancy between radiological response and pathological response was seen in 26 patients (57%).

		Pathological Response (No. positive axillary nodes)			
		0 (pCR)	1-2	3+	Total
MRI Radiological Response (No. positive axillary nodes)	0 (rCR)	8	4	3	15
	1-2	5	3	6	14
	3+	4	4	8	16
	Total	17	11	17	45

Conclusion: There is a clinically significant discrepancy between rCR and pCR in the axilla. This highlights the fact that MRI cannot be relied upon for accurate axillary response to NAC; surgical biopsy and histopathological assessment remains necessary in rCR patients.

P008. IMPACT OF SENTINEL LYMPH NODE BIOPSY ON PHYSICAL FUNCTION OF THE UPPER LIMB – A PROSPECTIVE STUDY IN PATIENTS WITH EARLY BREAST CANCER

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Introduction: Sentinel lymph node biopsy (SLNB) is the standard of care for axillary staging in breast cancer for clinically node negative patients. There have been some studies looking at upper limb morbidity after SLNB. We conducted a prospective study based on patient-reported functional outcomes after SLNB for early breast cancer.
Methods: Patients operated for a wide local excision and SLNB from February to November 2017 were included in the study. Patients were required to fill a validated Quick Dash (QD) questionnaire pre-operatively, at 2-weeks and at 3-months after SLNB procedure. The QD scores were calculated (Range 0-100) with higher score indicating poorer function. QD scores before and after surgery were compared.
Results: 120 patients were included in the analysis. Ninety-nine patients met all the inclusion criteria. The mean pre-operative QD score was 8.45. This increased to 16.05 at 2-weeks and reduced to 13.35 at 3 months. In a subset of patients without pre-operative upper limb dysfunction [QD score<10 (n = 75)], the mean scores were 1.82, 10.53 and 6.70 pre-operatively, 2-weeks and 3-months respectively. Thus, there was an increase in the scores immediately after the procedure, which returned closer to baseline at 3 months. The mean scores in patients with pre-operative upper limb dysfunction (QD score>10) increased after surgery and remained high at 3 months.
Conclusion: The Quick Dash scores suggest that there is a temporary deterioration in upper limb function after SLNB in patients with normal shoulder function. Assessment of 12-month scores would be useful to evaluate long-term outcomes.

P009. DOES TOTAL TUMOUR LOAD IN SENTINEL LYMPH NODE BIOPSY ASSESSED BY OSNA PREDICT FURTHER AXILLARY NODE DISEASE? CAN IT STRATIFY WHICH PATIENTS MAY BENEFIT FROM AXILLARY CLEARANCE?

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Introduction: There is a lack of consensus regarding the optimum axillary management of early breast cancer, especially in women with only one or two node involvement. More than 50% of patients who proceed to axillary clearance following sentinel lymph node biopsy have no further nodal involvement. One-Step Nucleic Acid amplification (OSNA) is a molecular assay of cytokeratin-19 (CK 19) mRNA which can be utilised intra-operatively for detection of lymph node metastases in breast carcinoma. Our aim is to identify a correlation of CK-19 total tumour load (TTL) and further axillary disease to aid intra-operative decision making regarding complete axillary dissection.
Methods: A retrospective single centre analysis of 1131 consecutive patients (Nov 2012 to Dec 2016) with invasive breast carcinoma who underwent intra-operative OSNA assessment was performed. Patient demographics, surgical and histopathological data were analysed.
Results: 490 (43.3%) patients had nodal positivity when assessed by OSNA. 302 (26.7%) patients had micrometastastic disease and 188 (16.6%) patients had macrometastastic disease. In the macrometastatic group, 138 (73.1%) of patients proceeded to axillary node clearance. Only 59 (42.8%) patients out of this cohort had further nodal involvement. Utilising a CK 19 copy number of 20,000 as a cut-off appeared to predict further axillary disease.

Total CK-19 copy No.	No. of patients	Axillary node clearance	Further LN involved
<20000	39	39	5 (12.8%)
>20000	99	99	54 (54.5%)

Conclusion: A CK-19 total copy number of >20,000 may help predict the likelihood of further axillary disease, aid intra-operative decision making, and avoid unnecessary further axillary surgery.

P010. A PROSPECTIVE COMPARATIVE STUDY OF SENTINEL LYMPH NODE BIOPSY WITH INDO-CYANINE GREEN (ICG) FLORESCENCE TECHNIQUE VERSUS DUAL DYE TECHNIQUE FOR EARLY BREAST CANCER - GOING BEYOND THE HORIZON IN INDIA

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Introduction: The objective of the present study was to assess the performance of sentinel lymph node (SLN) biopsy using indocyanine green (ICG) fluorescence method compared with that using the conventional method in detection of SLN.
Methods: 60 patients diagnosed with early breast cancer in a tertiary cancer center (South India) underwent the SLNB procedure using technetium 99m radio colloid (R), methylene blue dye (MB), and ICG. All SLNs removed during surgery were labelled as hot, blue or/and fluorescent and sent for pathological examination. The detection rate of SLNs and positive SLNs, and the number of SLNs of ICG, MB+ R, ICG + MB, ICG + R were compared. Injection safety of ICG and MB was evaluated.
Results: SLN was identified in all 60 cases. Total SLNs removed was 145 (Mean=2). Identification rate with dual dye technique was 95%, blue dye alone 93.6%, radioisotope alone 96.8% whereas ICG alone was 100%. Both dual dye & ICG identified all the positive nodes (46.6%). None had any local or systemic reaction with ICG, 3 patients with blue dye had tattooing & skin staining.
Conclusions: ICG is as effective as the dual dye for SLNB. In addition, as a near-infrared dye, it has the advantages of real-time visualization, lower cost, and wider availability, since no radioactive material needs to be handled. It can be a boon for developing countries & second tier centers of developed countries where there is limited access to a nuclear medicine department facility & the cost involved in its establishment.

P011. AXILLAR MANAGEMENT AFTER NEO-ADJUVANT CHEMOTHERAPY: EDINBURGH BREAST UNIT 2016-17 PERIOD

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Introduction: Recently neo-adjuvant chemotherapy (NCAT) has gained therapeutic importance for downsizing breast tumours but also for de-escalating axillary treatment. It is early days for this approach as there is

not yet proven evidence regarding oncological impact of conservative management of the axilla following NCAT.
Aim: To analyse current practice regarding axillary management post NCAT in a single unit during 2016-17.
Method: Retrospective observational study of breast cancer patients treated with NCAT during 2016-17 in a single unit. The primary outcome was to analyse our surgical management of the axilla post NCAT
Results: Out of 177 patients treated with NCAT, 130 had proved positive axilla (posA), 74% at diagnosis whilst 47 (26%) were negative. In the latter, 45 patients underwent an initial sentinel node biopsy (SNB) post NCAT from whom 5 patients needed further Axillary Clearance (ANC). Average nodes retrieved was 4.4 (1-11) using dual technique.
In the posA group, 74 (56%) patients had an initial SNB from whom 20 (15%) required further ANC. The other 52 (40%), had just primary ANC. Therefore, the number of patients who avoided ANC in this group was 54 (42%). The distribution of triple negatives and Her2 positives patients in our series was 49 (28%) and 67 (38%) respectively.
Conclusions: Ninety-four (54%) patients out of the total 177 were managed with SNB as a primary axillary surgical treatment post NACT, whereas 54 (42%) avoided ANC. That result is encouraging to engage in more controlled studies to support this conservative approach in selected patients.

P012. THE ROLE OF SENTINEL LYMPH NODE BIOPSY IN PLANNING ADJUVANT CHEMOTHERAPY FOR ELDERLY WOMEN WITH LOW RISK BREAST CANCER

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Background: Sentinel lymph node biopsy (SLNB) guides the delivery of adjuvant chemotherapy in breast cancer. Elderly patients (≥70 years) may not be candidates for chemotherapy due to poor performance status. Additionally, omitting SLNB in elderly patients with early breast cancer may not affect survival. In patients who are unlikely to receive chemotherapy, SLNB may therefore be unnecessary.
Aims: To determine whether SLNB in elderly patients (≥70 years old) with low-risk breast cancer informs adjuvant chemotherapy.
Methods: This was a retrospective review of a prospectively maintained database from 2013-2017 at Raigmore Hospital, Inverness. Patients with low-risk unilateral breast cancers undergoing SLNB were included. Basic demographics were recorded. Fisher's exact test compared the difference between the proportion of women with a positive SLNB offered chemotherapy in the younger (<70 years) and older (≥ 70 years) groups.
Results: The study included 492 patients. Median age was 63 years; 137 patients (27.8%) were aged ≥70 years. Eighty-nine patients had a positive SLNB; 73 (82.0%) were < 70 years old and 16 (18.0%) were ≥ 70. Of elderly patients with a positive sentinel node, only 5 were offered chemotherapy (31.2%). In the younger group, most women were offered chemotherapy (89%). There was a statistically significant difference in the proportion of node positive women receiving chemotherapy in the two age defined cohorts ($p<0.0001$).
Conclusions: Elderly women with node positive, low-risk breast cancers are less likely to be offered chemotherapy when compared with younger patients, suggesting that the use of SLNB in elderly patients could be rationalised.

P013. MAGNETIC SEEDS: AN ATTRACTIVE LOCALISATION OPTION FOR THE MANAGEMENT OF AXILLARY NODE POSITIVE BREAST CANCER

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Introduction: There are 2 indications for accurate removal of a previously identified, involved lymph node: 1) after neoadjuvant chemotherapy (NACT) to ensure that the index node is assessed (targeted axillary dissection), and 2) for women with 1 or 2 abnormal nodes on imaging who may be eligible for sentinel node biopsy (SLNB) as per POSNOC. Dual localisation has an unacceptable false negative rate in the former and marking of the index node is advised. Although a node can be marked prior to NACT, finding that node poses a challenge. Magnetic seed localisation (eg with Magseed) allows for accurate excision of impalpable breast lesions and may also solve the issue of node identification. We aimed to assess the feasibility of Magseed insertion into axillary nodes and accuracy of surgical removal.
Methods: A prospective pilot study of 9 patients was undertaken between August and November 2018. Data collected included details of radiology and surgical procedures, clinician satisfaction and pathological outcome.
Results: Radiologists reported that the Magseed was easy to insert under ultrasound guidance into the target node (mode 4 out of 5). Eight patients have undergone surgery, 3 after NACT, all with successful removal of the seed and the surgeons were also satisfied (mode 4 out of 5). In all cases the relevant node was identified.
Conclusions: Magseed insertion into malignant axillary lymph nodes is feasible and identification of the Magseed node at surgery straightforward. Further evaluation is required to establish utility in facilitating axillary conservation surgery in node positive breast cancer.

P014. COMPARISON OF AXILLARY NODE SAMPLING AND SENTINEL LYMPH NODE BIOPSY BEFORE AND AFTER THE INTRODUCTION OF SENTIMAG® MAGNETIC TRACER TECHNOLOGY

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Introduction: Sentinel lymph node biopsy (SLNB) is the accepted standard for assessing the axilla in breast cancer patients with clinically node-negative disease. In the absence of a dual technique to identify sentinel nodes, four-node axillary sampling (ANS) should be performed, however increased nodal excision is associated with increased morbidity. In April 2017 our unit changed its practice from blue dye-assisted ANS to SLNB using blue dye and Sentimag®. The aim of this study was to evaluate the effects of this change following completion of a six month learning period.
Methods: A service evaluation project was registered with our Trust to perform a retrospective case notes analysis of all breast cancer patients undergoing axillary staging surgery for one year pre-Sentimag® (01/04/2016 to 31/03/2017) and post-Sentimag® (01/10/2017 to 30/09/2018).
Results: 347 axillary staging procedures were performed in total (Table 1). The commonest reasons for not using Sentimag® were previous surgery (13/161 patients) and poor renal function (6/161 patients). 7/134 (5%) SLNB procedures failed (no tracer detected). Significantly fewer lymph nodes were removed using SLNB than ANS (median 2 vs 3; Mann Whitney $p<0.0001$); there was no significant difference in the number of axillary node clearances (15/134 vs 21/213; Fisher's exact test $p=0.72$).
Conclusions: SLNB using blue dye and Sentimag® instead of ANS is appropriate for the majority of patients requiring axillary staging and may reduce axillary morbidity by reducing the number of lymph nodes removed. Sentimag® provides an excellent non-radioactive alternative for SLNB.

Table 1
Axillary staging methods used per- and post-Sentimag.

	SLNB:Blue dye AND Sentimag®	ANS:Blue dye	ANS:Sentimag®	ANS:No tracer	Total
Pre-Sentimag®	-	185 (99%)	–	1 (1%)	186
Post-Sentimag®	134 (83%)	23 (14%)	1 (1%)	3 (2%)	161
Total	134	208	1	4	347

P015. OUTCOMES FOLLOWING NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER: PATHOLOGICAL RESPONSE IN THE AXILLA

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Introduction: Neoadjuvant chemotherapy (NAC) is used effectively in the management of breast cancer, and can downstage axillary disease. This

study aimed to evaluate downstaging of axillary disease in "real world" practice.
Methods: Retrospective data analysis from two breast screening institutions, including all patients with axillary disease, undergoing NAC between May 2014-November 2017. Positive axillary nodes were defined as the presence of macrometastases on pathology.
Results: A total of 136 patients were included, with 76 axillary node clearances (ANC, 55.9%), 25 axillary node dissections/sampling (18.4%) and 35 sentinel lymph node biopsies (SLNB, 25.7%). In the ER+/HER2- group, the complete pathological response (pCR) rate was poor at 19.2%. All other molecular subgroups had a pCR rate of >50%. Follow-on ANC were performed in 3 patients (2%) with positive SLNB and axillary radiotherapy was given to 49 patients (28%).

Table 1
Pathological Response Axilla, n(%)*

Hormonal Receptor Status	Complete pathological response	Partial pathological response	No response	Progression	*Total*
ER-/HER2-	18 (56.3)	7 (21.9)	6 (18.8)	1 (3.1)	32 (23.5)
ER-/HER2+	22 (66.7)	6 (18.2)	2 (6.1)	3 (9.1)	33 (24.3)
ER+/HER2-	5 (19.2)	12 (46.2)	5 (19.2)	4 (15.4)	26 (19.1)
ER+/HER2+	25 (55.6)	14 (31.1)	1 (2.2)	5 (11.1)	45 (33.1)
Total	70 (51.5)	39 (28.7)	14 (10.3)	13 (9.6)	136

*excluding patients with a negative axilla on radiology and negative on pathology
Conclusion: An excellent pathological response to NAC was seen for triple negative and HER2+ breast cancers. OncotypeDX testing may be of benefit in the ER+/HER2- cohort.

P016. CAN WE USE OSNA (ONE STEP NUCLEIC ACID AMPLIFICATION) ROUTINELY IN DCIS? – A SINGLE CENTRE STUDY

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With DCIS, metastatic spread to the axillary lymph node is unusual but the assessment of sentinel node biopsy (SLNB) by OSNA has shown an increase in micrometastases. Our aim was to review how many patients with DCIS had a positive sentinel node.
Retrospective data from Jan 2005 to December 2016, 284 patients who had DCIS underwent SLNB were retrieved from hospital electronic records. SLNB was assessed by immunohistology until 2012 and from 2013 SLNB were assessed by OSNA and we compared the 2 cohorts.
Results:

		2005 – 2012 SLNB by immunohistology (220 Patients)	2013 – 2016 SLNB by OSNA (64 Patients)
Treatment	Mastectomy	133 (60.5%)	47 (73.4%)
	Wide excision	87 (39.5%)	17 (26.6%)
Grade	High	178 (80.9%)	52 (81.2%)
	Intermediate	40 (18.2%)	12 (18.8%)
	Low	2 (0.9%)	0
Size (mm)	<10	30 (13.6%)	8 (12.5%)
	11 – 20	38 (17.3%)	6 (9.4%)
	21 - 40	72 (32.7%)	22 (33.3%)
	>40	80 (36.4%)	28 (43.8%)
Microinvasion		69 (31.4%)	9 (11.7%)
SLN Status	Micro metastases	2 (0.9%)	14 (21.9%)
	Macro metastases	1 (0.5%)	0
Axillary Clearance		3 (1.4%)	3 (4.7%)

Conclusion: A significant increase in Micrometastasis with DCIS in the OSNA group No further nodal involvement in patients who had axillary clearance. OSNA can safely be used for DCIS and should not lead to overtreatment.

P017. ACCURACY OF PREOPERATIVE ULTRASOUND STAGING OF THE AXILLA A SINGLE INSTITUTE EXPERIENCE IN THE UK

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Background: Axillary node status remains one of the most important prognostic factors in breast cancer. Ultrasound of the axilla is still the only way of accurately staging of the axilla. The aim of this study is to evaluate the accuracy of pre-operative staging of the axilla in patients with suspected or confirmed breast cancer using an ultrasound (USS) machine.
Methods: 142 female patients have been diagnosed with breast cancer between March 2018-August 2018. 55 (screen detected), 86 (symptomatic) and one patient (family history clinic). All patients subjected to USS and core biopsy of lymph node if suspicious. Ultrasound of the axilla using a 12-16 MHz matrix line array transducer on a Toshiba Aplio ultrasound platform. The nodal morphology was recorded, including whether the outline of the node was smooth, uni or multi-lobulated with normal or absent hilum. If the lymph node was >10 mm in maximum longitudinal dimension, then a biopsy was taken. If > one node was identified, the most morphologically abnormal node was selected for biopsy.
Result: Out of 142 newly diagnosed breast cancers, 42 abnormal lymph nodes were identified and patients had ALND. 100 patients underwent SLNB with normal preoperative axillary USS staging. Sensitivity 70%(56-80),specificity 90%(83-95), PPV 80%, NPV 83%, false positive 17%, and false negative 16%. Positive SNB (18), 6 invasion >10mm, 5 between 5-10mm, and 7<5mm.
Conclusions: In our practice, ultrasound is still the most acceptable modality for preoperative axillary staging with an acceptable false negative rate comparing to meta analysis.

P018. IMPACT OF NEOADJUVANT CHEMOTHERAPY ON AXILLARY TUMOUR BURDEN

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Aim: Neoadjuvant chemotherapy (NAC) usually results in partial / complete eradication of cancer in the breast. We studied the impact of NAC on the axillary tumour burden in early breast cancer patients with node-positive axilla.
M & M: We studied the axillary outcome of patients diagnosed with node-positive axilla at the time of diagnosis by US-guided FNAC, and compared this between those who received NAC and those who had surgery first.
Results: 103 female patients were identified, 97 were suitable. One patient had bilateral node positive cancers. All had axillary clearance except 4 who had sentinel lymph node biopsy (SLNB). The baseline & outcome data is presented in the table below:

	Neoadjuvant Chemotherapy (n=48)	Surgery (n=49)
Median age (range)	54 (33-77)	65 (31-88)
Median primary tumour size on Ultrasound (mm) (range)	26 (7-50)	22.5 (0*-47)
Core biopsy histology		
Invasive Ductal	44	47
Invasive Lobular	4	2
Type of Surgery		
Mastectomy	25	30
Breast Conservation	23	19
Median no of nodes with macrometastases (range)	1 (0-29)	3 (0-59)
Median percentage of nodes with macrometastases (Number involved / Number removed) (range)	5 (0-95)	20 (0-100)

*not seen on US

Tumour reduction in axilla correlated with breast tumour reduction. Among 10 patients with complete imaging / clinical response to NAC, 8 had complete pathological response in axilla.
Conclusions: NAC significantly reduces tumour burden in axilla. Most patients with an excellent response to NAC will have similar response in axilla. Post NAC axillary staging by SLNB will reduce the morbidity of axillary surgery in these patients.

P019. FACTORS ASSOCIATED WITH COMPLETE PATHOLOGICAL RESPONSE IN THE AXILLA FOLLOWING PRIMARY CHEMOTHERAPY

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Introduction: Management of the clinically positive axilla, down-staged to clinically negative by primary chemotherapy is controversial. The 2017 St Gallen consensus proposed sentinel lymph node biopsy (SLNB) alone, providing three negative sentinel nodes are identified, but this has not become standard practice. This study aims to identify factors associated with negative axillary lymph node histology in these patients.
Method: Retrospective data was collected on breast cancer patients completing six cycles of primary chemotherapy, between 01/02/2014 and 31/01/2018. Patients were included if they were node positive on core biopsy histology prior to chemotherapy, down-staged to node negative on ultrasound, and underwent axillary lymph node dissection.
Results: Of 69 patients meeting the inclusion criteria, 46.3% (n=32) had pathological complete response (pCR) in the axilla. When complete radiological response in the breast occurred, 70.55% (12/17) of patients had axillary pCR, compared to 38.5% (20/52) where residual breast disease was seen radiologically ($p<0.01$, z test). The relationship between receptor status and axillary pCR is shown in table 1.
Conclusion: This study demonstrates that despite complete axillary radiological response following primary chemotherapy, over 50% of patients will have residual axillary disease. Patients with ER negative/HER2 positive disease had a significantly lower risk, however with limited further adjuvant treatment, thorough initial surgery is critical. Further consideration needs to be given therefore to usage of SLNB in these high-risk patients.

Table 1
Receptor status of patients with axillary pCR

	ER Positive	ER negative
HER2 Positive	53.8 % (7/13)	83% (10/12)
HER2 Negative	25% (7/28)	50% (8/16)

$p<0.01$, X^2analysis

P020. THE USE OF INTRAOPERATIVE LYMPH NODE ANALYSIS WITH NEOADJUVANT CHEMOTHERAPY: A THREE-YEAR RETROSPECTIVE COHORT STUDY

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Introduction: The place for one-step nucleic amplification intraoperative analysis of lymph nodes (OSNA) in the neoadjuvant setting continues to be debated. The significance of nodal micrometastases remains unclear. Our aim was to review our experience and results of OSNA in patients with breast cancer who had received neoadjuvant chemotherapy.
Methods: Using a combination of online systems, data on all patients who had undergone OSNA over the last three years was collated to include response of nodes to chemotherapy, presence of macrometastases/micrometastases, receptor status and histological results of any subsequent axillary clearance.
Results: 68/288 OSNA patients had undergone neoadjuvant chemotherapy. Nodal macrometastases were found in 4 (5.8%), all underwent axillary clearance and 1 (25%) had positive histological nodes. Micrometastases were present in a further 15 (22%) patients, 6 (40%) of whom proceeded to clearance; 2 (33%) had further node involvement.
3 (4.4%) patients proceeded to clearance with negative OSNA results of whom 1 (33%) had nodal involvement. 2 of these 3 patients had preoperatively involved nodes on imaging.
HER2 positivity was seen in 75% of macrometastases but 33% of micrometastases.
Conclusion: In conclusion, there remains a need for further evidence and guidance for appropriate treatment of micrometastatic disease. Preoperative imaging and receptor status do not appear to provide a marker of positive nodal involvement in our cohort. Despite this, the study does demonstrate the effective use of OSNA over a three-year period, with only 1 missed metastasis, which was picked up via the use of preoperative imaging and clinical judgment.

P021. AXILLARY COMPLETE PATHOLOGICAL RESPONSE TO NEO-ADJUVANT CHEMOTHERAPY IN BREAST CANCER: CAN WE PREDICT IT?

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Introduction: The recommended surgical procedure for the involved lymph nodes (LNs) in breast cancer is axillary nodes dissection (AND), even after pathological complete response (PCR) to neo-adjuvant chemotherapy (NACT). Many trials are studying the benefit of re-staging the axilla post NACT with targeted nodes dissection (TAD) with the assumption that they can represent the whole axillary response, and if they show PCR then those patients can avoid the potentially morbid AND.
The TAD technique is showing promising results but still there are significant false negative rates (FNR). In this study our aim is to identify common imaging and/or histo-pathology characteristics in patients who showed PCR in the axilla. This subgroup, if found with predictable axillary PCR, can be a target for TAD in future studies with possibly less FNR.
Methodology: Retrospective data collected from all patients with axillary metastasis underwent NACT in our institution between 2009 and 2017. Pre and post-surgery imaging and final histopathology characteristics were compared to the axillary response to NACT.
Analysis done using R. Citation: R Core Team (2018)
Results: We found statistically significant association between PCR in the axilla and HER2+ve cancers ($p=0.012$), absent lympho-vascular invasion (LVI) ($P<0.001$), and complete main tumour response to NACT ($P<0.001$). Relation of axillary response to ER, PR, and MRI were statistically insignificant ($P= 0.120$, 0.249, and 0.310).
Conclusion: It is possible to find a subgroup with predictable PCR showing common characteristics like LVI negative, HER2 positive, and main tumour PCR. These findings can hopefully help in further prospective studies.

P022. RE-AUDIT OF ACCURACY OF AXILLARY ULTRASOUND SCAN IN DETECTING METASTATIC LYMPH NODE INVOLVEMENT IN BREAST CANCER PATIENTS

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Purpose: To compare the detection rate of USS for malignant lymph nodes using modified criteria of 2.5mm cortical thickness of lymph node with our previous audits which used the cortical thickness 3mm as a criterion.
Materials and Methods: In a year (01/04/16 – 31/03/17), we included 134 eligible patients. Cortical thickness of 2.5mm and cortical and hilar morphology of the lymph node were used as sonographic criteria. Trucut biopsy or FNAC were taken to confirm the metastasis. Normal sonography and negative tissue result of abnormal looking node led to SLNB. Positive tissue diagnosis led to ANC.
Results: Improved sensitivity of 69% compared to 56% and 57% in previous audits while maintaining the similar specificity of 92% compared to 93% and 91% in past years. These results are comparable to published data (sensitivity of 49%-94% and specificity of 53%-97%). Royal College of Radiologists' audit target is 50% sensitivity.
Conclusion: Even though we still have a considerable false negative rate particularly with low volume/burden axilla, reducing the cortical thickness to 2.5mm could improve the accuracy of ultrasound scan in detecting the abnormal lymph node in the axilla of breast cancer patients.

P023. IS AXILLARY CLEARANCE NEEDED FOR ALL NODE-POSITIVE PATIENTS WHO ARE HAVING NEOADJUVANT CHEMOTHERAPY?

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Introduction: Controversy exists regarding ideal axillary staging procedure for node-positive patients who have neoadjuvant chemotherapy (NAC). For one abnormal lymph node (LN) and positive core biopsy, we offer sentinel node biopsy (SLNB) as an option if ultrasound scan (USS) showed good radiological response of LN and main tumour following NAC. Patients with multiple positive LN on core biopsy are offered axillary node clearance (ANC).
Aim: To investigate what proportion of patients developed nodal pathological complete response (PathCR) after SLNB and ANC and identify factors that could predict nodal PathCR.
Methods: Ninety-four consecutive NAC patients from October 2014 to January 2018 were studied.
Results: 66% (62/94) had positive nodes on core biopsy pre-NAC. 15 (24%) patients had SLNB, of which 73% (11/15) developed nodal PathCR. 47 (76%) patients had ANC, 40% (19/47) had nodal PathCR and 60% (28/47) remained node-positive. Looking at Her2 positivity and Path CR in these 47 ANC patients, 19 were Her2 positive and 68% (13/19) showed nodal PathCR. 28 patients were Her2 negative and only 21% (6/28) had nodal PathCR. This was statistically significant (p value<0.002, Fisher's exact test, Two-tailed). 8/13 (61%) Her2 positive and nodal PathCR patients showed good nodal radiological response in their post-NAC US scan.
Conclusion: Patients with one abnormal node and good radiological response after NAC and those with more than one abnormal node but are Her2 positive and with good radiological response on US scan will have nodal PathCR in 73% and 68% respectively. SLNB can be considered in these patients.

P024. AXILLARY MANAGEMENT AFTER NEOADJUVANT CHEMOTHERAPY IN NODE POSITIVE BREAST CANCER

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Introduction: The surgical management of the axilla in patients who are undergoing neoadjuvant chemotherapy (NAC) remains unclear. There is little consensus on how best to proceed in patients with low volume axillary disease who have radiological evidence of response to treatment.
Aims: Our aim was to identify patients who can safely avoid axillary clearance in low volume nodal disease after NAC.
Methods: A retrospective single Centre analysis of 95 consecutive breast cancer patients (Jan. 2012 to Dec. 2016) who were assessed as being node positive at diagnosis and who received NAC was performed. Patient demographics, radiological assessment of response to therapy, and final histopathological data were analysed.
Results:

Response to NAC by clinical & radiological assessment = 95	No. Pts	Final nodal Status		
		Node Negative ITC/Micromet	1-3 LNS +ve (N1)	>3 LNs +ve
No tumour response + No LN response	7	1 (14.3%)	1 (14.3%)	5(71.4%)
Partial tumour response + No /partial LN response	48	24 (50%)	16 (33.3%)	8(16.7%)
Partial tumour response + complete LN response	9	8 (88.9%)	1 (11.1%)	0
Complete tumour response + incomplete LN response	9	5 (55.6%)	2 (22.2%)	2 (22.2%)
Complete tumour response + complete LN response	12	12 (100%)	0	0
Inflammatory carcinoma	6	3	0	3

Conclusion: In patients who had evidence of partial radiological axillary/tumour response, 49% of these had persistent nodal disease, therefore necessitating complete axillary dissection. However, those patients with evidence of complete radiological response after NAC were all node negative, suggesting that these patients can safely avoid axillary clearance.

P025. SHOULD WE DO SENTINEL LYMPH NODE BIOPSY AFTER NEOADJUVANT CHEMOTHERAPY?

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Aim: There is a controversy with regard to timing of sentinel lymph node biopsy (SLNB) in patients undergoing neo-adjuvant chemotherapy (NAC). In our hospital, patients having NAC undergo SLNB prior to neoadjuvant chemotherapy. Aim of our study was to assess the incidence of further axillary disease at ALND after NAC and compare with those not receiving NAC.
Methods: Retrospective review of patients undergoing ALND with positive sentinel nodes between January 2016 to December 2017 at Peterborough City Hospital. Data were collected from the cancer and pathology registries. Patients who had ALND were divided into 2 groups; group 1 underwent ALND after NAC and group 2 who did not have NAC. Statistical difference between the 2 groups were calculated using Fisher's exact test.
Result: SLNB were performed in 455 patients. Only 5 patients (18%) in group 1 had further metastasis on ALND as compared to 39% in group 2 as shown in table 1. However, the difference between the 2 groups was not statistically significant (P> 0.09). Five other patients in group 1 showed only fibrosis.
Table 1

	No of patients	Mean age Years	Mean tumour size mm	Grade 3 %	Triple -ve %	Further nodal metastasis on ALND Patients (%)
Group 1	28	47	48	54	14	5 (18%)
Group 2	38	60	29	45	8	15 (39%)

Conclusion: SLNB after NAC could avoid unnecessary ALND because of downstaging of the disease. A larger randomised controlled trial should be done to establish the long-term outcome of SLNB after NAC.

P026. IS THE RESPONSE TO NEOADJUVANT CHEMOTHERAPY IN LOCALLY ADVANCED BREAST CANCER HOMOGENOUS AND PREDICTABLE?

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Introduction: 20-25% of breast cancer in developing countries present with skin involvement. The challenge in them is to achieve adequate down-sizing and R0 resection. Apart from 10% of patients which shows scattered cytoreduction, a large group show differential response pattern at the surface (skin) and in the parenchyma.

Aims: To study the post-NACT disease pattern in surface and core of the lesion histopathologically and correlate the results with cancer stem cell distribution.

Methodology: 18 patients with post NACT T4b lesions were included in the study. Tissue was taken from the skin zone and core of the tumour. The tissues were studied histopathologically with reference to density of malignant cells (>3 clumps), tubule formation, nuclear pleomorphism, mitotic score, TILs and vascular density at the periphery. The results were analysed using t-test (first three) or chi-square (last three) using SPSS-version24.0. ALDH1 (surrogate CSC marker) expression of different areas was assessed.
Result: Malignant cell-density (p 0.023), mitotic score (p 0.0184), nuclear pleomorphism (p 0.0290) and vascular congestion (p 0.0233) was significantly more persistent after chemotherapy at the dermal component while TILs(p 1.0) and tubule formation (p 0.25) was insignificant. ALDH 1 expression was significantly (p 0.023) more in chemoresistant areas.
Discussion: Breast cancer is less sensitive to NACT once there is gross skin involvement. The disease shows a heterogenous response. This is because of the linear migration of cancer stem cells from core area to the surface. Study of T4 lesions offers opportunity for study of heterogeneous nature of breast cancer.

P027. THE UNEXPECTED UNPLEASANT SURPRISE: MALIGNANCY ON HISTOPATHOLOGY FOLLOWING DUCT EXCISION SURGERY - IS IT AVOIDABLE?

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Background: The unexpected diagnosis of cancer following total duct excision is distressing for patients. Despite advances in radiology and the description of suspicious nipple discharge, we still occasionally fail to detect malignant disease preoperatively.
Aim: To review the pathological findings of total duct excision with reference to pre-operative symptoms, ultrasound or mammographic findings and identify features associated with increased likelihood of malignant disease.
Methods: Data were collected retrospectively of all patients who underwent total duct excision surgery in single centre (2011-2017). Pre-operative demographics, symptoms and imaging findings were recorded and correlated with subsequent pathology.
Results: 214 patients underwent total duct excision; data was available for 211. Median age was 53yrs. 175/211 (82.9%) patients had benign pathology (duct ectasia, papilloma without atypia, fibrocystic change) on final histological examination, 21/211 (10.0%) had 'risk' lesions (papilloma with atypia, ADH) and 15/211 (7.1%) had malignancy (DCIS) Of the 15 patients with malignant lesions, 6/15 (40%) had normal imaging (M1, U1). 71/211 (33.6%) had normal imaging (M1, U1): 60/71 (84.5%) had benign disease, 5/71 (7.0%) had 'risk' and 6/71 (8.5%) had malignant lesions. 83/211 (39.3%) patients presented with bloody discharge: 64/83 (77.1%) had benign pathology, 9/83 (10.8%) risk and 10/83 (12.0%) malignancy. 38/211 (18%) patients presented with non-bloody discharge: 32/38 (84.2%) had benign disease, 4/38 (10.5%) risk and 2/38 (5.3%) malignant lesions.
Conclusion: Neither imaging nor presenting symptoms correlate with likelihood of malignant disease being present at final pathology. Even with advances in pre-operative diagnosis, total duct excision remains an essential diagnostic and therapeutic procedure.

P028. VITAMIN D DEFICIENCY IN MASTALGIA: IS IT A COINCIDENCE OR AN ASSOCIATION?

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Introduction: Mastalgia is the commonest reason for presentation of a female in a breast OPD. Various medicine and lifestyle modifications have been suggested with variable results. The role of Vitamin D in subtle regulation of oestrogen-progesterone internal milieu is evolving.
Aims: To evaluate the role of vitamin D in relieving mastalgia.
Methodology: Patients presenting with mastalgia were triple assessed and those presenting with clinically impalpable and radiologically benign (up to BIRAD II) were included in the study. The patients were randomly divided into 2 groups: Group A (n=79) who received EPO only and Group B (n=80) who received EPO and vitamin D at a dose of 60,000 units per week over a period of 6-12 weeks. The response rates in the two groups were assessed by VAS.
Results: Total 159 patients with mastalgia were studied. 79 patients treated with EPO only showed insignificant response -32, moderate response - 30 and good response - 17. 80 patients treated with EPO and vitamin D showed good response - 56, moderate response - 16, insignificant response -8. (Response p value= 0.016.)
Discussion: Increased levels of oestrogen and progesterone cause ductal dilatation which is responsible for breast pain prior to the onset of menstruation. Vitamin D reduces progesterone 10% and oestrogen 3% with 4ng/ml increase in vitamin D levels.
Conclusion: There is an evident deficiency of vitamin D of varying degrees (mild to severe) in 78% of patients with mastalgia. Supplementation of vitamin D in mastalgia is strongly associated with reduction of breast pain.

P029. DOES EVERY YOUNG WOMAN PRESENTING WITH A SOLID BREAST LUMP REQUIRE A BIOPSY? SIX YEAR EXPERIENCE OF A REGIONAL BREAST UNIT

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Introduction: Breast lumps are common in young women yet are frequently benign. Association of Breast Surgeons (ABS) guidance (2010) recommends that women <25 years with a presumed fibroadenoma satisfying benign criteria do not require a biopsy. We wanted to review the sensitivity of these criteria to detect benign lumps in the local population and explore whether the age could be extended to 35years.
Methods: From May 2012 to April 2013, details of all women aged ≤35 years attending a symptomatic clinic with a solid breast lump were prospectively recorded. Variables included examination (P1-5), family history, ultrasound (U1-5) and pathology. 'Benign' criteria included P1-3, size <3cm, static, no significant family history and U2. Initially all lumps were biopsied.
Results: From May 2012-April 2013 there were 61 cases ≤35 years. 33 (54%) satisfied ABS criteria and all were benign on biopsy. There were 4 cancers, all failed criteria. From these results, a 'no biopsy requirement' for women ≤25 years was introduced in June 2013. From May 2013-November 2018 there were 367 cases, 190 passed benign criteria (190/367, 52%). Of the remaining 177 that failed, all were biopsied. 158 were subsequently benign (158/367, 43%) and 19 malignant (19/367, 5%). From November 2014, the no biopsy requirement was extended to ≤30 years. To date 144 patients have been seen and discharged without biopsy.
Conclusion: Our results reaffirm ABS guidance for women under 25 years and provide evidence that this could be safely extended to include women aged 30 years and younger.

P030. RETROSPECTIVE REVIEW OF BENIGN PHYLLODES CASES TO ANALYSE TREATMENT, FOLLOW-UP PRACTICE AND FACTORS PREDICTIVE OF LOCAL RECURRENCE

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Introduction: Phyllodes tumours are rare fibroepithelial tumours, traditionally described to have high rates of local recurrence (LR). There is no consensus regarding margins of excision. Our aim was to ascertain our practice and factors contributing to LR.
Methods – Retrospective data collection from electronic patient records for cases identified from pathology data base from January 2000 to June 2018. Fisher's exact test used to calculate p values to define factors associated with LR.
Results – We identified 317 cases of phyllodes of which 155 were benign. 14 had incomplete data, hence 141 were included. Mean age was 42yrs and follow-up 35 months. Three underwent mastectomy, 62 WLEs, 73

enucleation and 6 vacuum assisted excision. Mean size was 39mm (Range 8 – 250 mm). Margins were not specified in 10. Seventeen had LR (12.1%) at mean of 45 months from primary surgery. Age, tumour size (3cm and 5cm cut offs) and type of surgery (WLE + Mastectomy verses enucleation or less) were not associated with LR. Completeness of excision was the only significant factor (p value 0.0052). 16 LRs were symptomatic - 2 malignant, 2 borderline and 7 multiple eventually requiring mastectomy. Follow-up recommended to 89; 39 clinical and radiological, 17 radiological and rest, only clinical. Duration of follow-up recommended was variable.

Conclusion – LR rates for benign phyllodes are low overall. Completeness of excision is significantly associated with LR. Being breast aware might be more useful than regular follow-ups as most LRs were symptomatic. We could use this information to guide local practice.

P031. PATTERNS OF SELF-REFERRAL FOR BREAST CANCER SCREENING IN WOMEN AGED OVER 70 IN WALES BETWEEN 2005 AND 2016

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Introduction: In Wales, routine invitation for breast screening stops at 70 years of age. Women over 70 can self-refer for continued screening if they choose to.

Methods: Retrospective review of NHS Breast Cancer Screening Database (NBSS) looking at patterns of self-referral appointments and resultant cancer diagnoses in women over 70 years in Wales between 2005-2016 with respect to the Welsh Index of Multiple Deprivation score.

Results: During the review period 38,853 women aged over 70 requested 55,950 breast screening appointments. 13,497 (34.7%) women attended more than one 'additional' screening with the majority attending once more beyond 70 years. 2875 (5.1%) were recalled following the screening episode, of which 929 had a screen-detected cancer diagnosed (23.9 cancers per 1000 women screened). 774 (83.5%) had invasive disease.

The median age of women who self-referred was 74 years (range 71-95 years). More appointments were requested by and more cancers were diagnosed in women from the least deprived WIMD quintiles than those from the most deprived quintiles.

Quintile	Number of appointments (%) n=55950	Number of cancers (%) n=929
1 (most deprived)	5463 (9.4)	93 (10.0)
2	9797 (16.9)	145 (15.6)
3	12729 (22.0)	186 (20.0)
4	14632 (25.3)	264 (28.4)
5 (least deprived)	13329 (23)	222 (23.9)
Missing	1892 (3.3)	19 (2.0)

Conclusion: Women from more affluent backgrounds are more likely to self-refer for breast cancer screening beyond their 70th birthday than those less well-off. We found a high cancer detection rate in this age-group per 1000 women screened.

P032. REVIEW OF BREAST CANCER DIAGNOSES IN WOMEN AGED OVER 70 YEARS IN WALES: A COMPARISON BETWEEN SCREEN-DETECTED AND SYMPTOMATIC PRESENTATIONS BETWEEN 2010-2012 WITH 5 YEAR FOLLOW-UP

Anna Powell Chandler[1], Llion Davies[2], Kate Gower-Thomas[3], Heather Lewis[2], Marianne Dillon[3]. [1] *Wales Deanery, Swansea, United Kingdom;* [2] *Public Health Wales, Cardiff, United Kingdom;* [3] *Breast Test Wales, Cardiff, United Kingdom*

Introduction: Women over 70 years can self-refer to breast screening but most cancers in this age-group are symptomatic presentations.

Methods: Retrospective review of prospectively held cancer registry database (CANISC) of breast cancers diagnosed in women aged over 70 between 2010-2012. Cancer outcomes for screen-detected and symptomatic presentations were compared statistically using Chi-squared and Mann-WhitneyU as appropriate.

Results:

	Screen-detected n=363 n(%)	Symptomatic n=2180 n(%)	p-Value
Median age(range)	73(70-91)	79.5(70-104)	<0.001
Non-invasive	65(17.9)	119(5.5)	<0.001
Invasive	298(82.1)	2054(94.2)	
Grade 0/1	78(21.4)	257(11.8)	<0.001
G2	158(43.5)	1136(52.1)	
G3	56(15.4)	520(23.9)	
Missing	71(19.6)	268(12.3)	
ER+	281(77.4)	1709(78.4)	0.046
HER2+	26 (7.2)	243(11.1)	0.072
Tis	27(7.4)	31(1.4)	<0.001
T1	173(47.7)	331(15.2)	
T2	43(11.8)	588(27.0)	
T3	5(1.4)	89(4.1)	
T4	0(0)	102(4.7)	
Missing	115(31.7)	1039(50)	
N0	199(54.8)	598(27.4)	<0.001
N1-3	39(10.7)	457(21.0)	
Missing	125(34.4)	1125(56.1)	
M0/ Mx	362(99.7)	2078(95.3)	<0.001
M1	1(0.3)	102(4.7)	
BCS	237(65.3)	482(22.1)	<0.001
Mastectomy	103(28.4)	731(33.5)	
No surgery	23(6.3)	967(44.4)	
SLNB	256(70.5)	707(32.4)	<0.001
Survival (months), median (range)	77(4-97)	62(0-97)	<0.001
5-year survival	318(87.6)	962(44.1)	<0.001

Conclusion: Allowing for data-recording inaccuracies, this review shows women with symptomatic presentation over 70 present with more advanced disease and are less likely to receive surgical treatment than those who self-refer for breast cancer screening.

P033. THE IMPACT OF COMMUNITY OUTREACH BLACK AND ETHNIC MINORITY BREAST HEALTH AWARENESS SEMINAR: ADDRESSING HEALTHCARE INEQUALITIES

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Introduction: Breast screening rates among Black, Asian, and minority ethnic groups (BAME) in Bristol are 2.6%, compared with 53.7% of white women. An educational event was organised in order to improve knowledge and understanding of breast health in the BAME community, and gather information from service users about what barriers existed and ideas for how to overcome them.

Methods: An event was arranged in partnership with Bristol Health Watch involving clinicians and plastic breast care nurses from Southmead Hospital. The event included educational lectures and breakout focus groups in a relaxed community setting. A self-rated questionnaire was distributed asking participants to rate their knowledge and understanding of breast health.

Results: A total of 40 women attended of whom 25 completed feedback. Knowledge and understanding of breast health increased from good or excellent in 32% pre-event, to 84% post-event. Fourteen women already attended breast screening prior to attending, but 23 women planned to attend after the event (an increase of 39%). All respondents planned to encourage friends and family to attend breast screening.

Areas for improvement identified from focus group feedback included appropriate locations for advertising and holding similar events, and images of women from BAME groups in literature about breast health.

Conclusion: This small pilot study demonstrates the benefit of community outreach breast health events to BAME groups and supports the need for further events. In the future seminars will concentrate on the healthcare inequalities and challenges faced by individual communities with inclusion of information about breast reconstruction.

P034. REVIEW OF OUR INITIAL USE OF TOMOSYNTHESIS-GUIDED BIOPSY - HOW DID IT HELP?

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Introduction: As use of digital breast tomosynthesis (DBT) increases, there is a need for biopsy methods to sample abnormalities only on DBT. We have used DBT since 2014, with DBT-biopsy since August 2016, in screening and symptomatic clinics. We have reviewed use of DBT-biopsy to assess the management role of this new technique.
Methods: DBT-biopsies between 08/2016 and 05/2018 identified from PACS. Imaging findings, management decisions and biopsy outcomes were reviewed.
Results: 61 patients underwent DBT-biopsy over 21 months (57 screening, 2 recalled from surveillance mammography, 2 incidental calcifications in symptomatic patients). 21 masses, 21 distortions and 19 calcifications were biopsied. Reasons for using DBT-biopsy: 32 where the area was not identified on USS, 13 cases where DBT improved lesion accuracy and 16 for calcification where DBT was operator preference over stereotactic biopsy. There were 16 B5 diagnoses (9 B5a, 7 B5b). In 8/16 cases, the mammographic lesion was not identified by ultrasound. In 2, DBT-biopsy allowed more accurate lesion identification (multiple lesions or initial ultrasound biopsy at inaccurate site). 6 cases (for calcification/clips) used DBT-biopsy at user's discretion. In 45 cases, the DBT-biopsy was benign.
Conclusion: DBT-biopsy is a useful tool in the assessment of breast disease. It is particularly helpful in assessment of subtle distortions which were ultrasound occult, and where lesion localisation is difficult on conventional imaging. In addition, it provides a 'belt and braces' approach to low suspicion findings, where accurate benign biopsies can allow users to discharge the patient with increased confidence.

P035. COMPARISON OF POST-OPERATIVE PATIENT SATISFACTION AND HEALTH-RELATED QUALITY OF LIFE FOLLOWING LATISSIMUS DORSI (LD) FLAP BREAST RECONSTRUCTION, DEEP INFERIOR EPIGASTRIC PERFORATOR (DIEP) FLAP BREAST RECONSTRUCTION AND BILATERAL THERAPEUTIC MAMMOPLASTY USING BREAST-Q QUESTIONNAIRE

Joanna Wolska[1], Tareq Ammari[1], Neil Johns[1], Mark Schaverien[1], Cameron Raine[2], Michael Dixon[2], Mark Butterworth[1], Hilal Bahia[1], Stuart Hamilton[1], Patrick Addison[1], Neil Cahoon[1], William Anderson[1], Ewa Majdak-Paredes[1]. [1] *St. John's Hospital/Department of Plastic Surgery, Livingston, United Kingdom;* [2] *Edinburgh Breast Unit/Western General Hospital, Edinburgh, United Kingdom*

Introduction: Patients' post-operative wellbeing determines their perceptions of the impact and effectiveness of breast surgical procedures. The aim of this study is to evaluate and compare patient-reported outcomes following the 3 different types of breast reconstruction.
Methods: Patients (n=182) who underwent bilateral therapeutic mammoplasty, LD flap and DIEP flap breast reconstruction at our unit were identified from a retrospective register and were sent BREAST-Q questionnaires. The collected data was analysed using Q-SCORE software to compare post-operative patient satisfaction with breast, outcome and care, and physical, psychosocial and sexual wellbeing.
Results: Seventy-five (41%) responses were received: 26 LD flaps, 26 DIEP flaps and 23 therapeutic mammoplasties. Bilateral therapeutic mammoplasty patients had higher BREAST-Q scores in post-operative satisfaction with breast and psychosocial well-being compared to DIEP flap patient cohort. However, there was no significant difference in physical or sexual wellbeing between these two groups. The LD flap group had relatively high satisfaction with post-operative back appearance. Satisfaction with information, surgeon and office staff was maintained across both DIEP flap and bilateral therapeutic mammoplasty groups but satisfaction with medical team varied. Detailed analysis of specific quality of life scores in correlation with clinical characteristics of each group will be presented.
Conclusions: The most important goal of breast reconstruction is to improve quality of life. This study demonstrates patients' perception of body image following breast reconstruction and highlights the importance of post-surgical psychological impact. It suggests that women who undergo bilateral therapeutic mammoplasty report higher satisfaction and quality of life outcomes following surgery.

P036. PREDICTORS OF NON-SENTINEL NODE METASTASIS AND POORER PATIENT RESPONSE TO NEOADJUVANT CHEMOTHERAPY IN PRIMARY BREAST CANCER: A 10-YEAR STUDY

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Introduction: The ability to predict non-sentinel node (non-SLN) metastasis in breast cancer patients has been an area of intense research for the past decade. This study aimed to identify predictors of non-SLN metastasis and level 3 node involvement. Further objectives included identifying factors which predicted poorer patient response to neoadjuvant chemotherapy (NAC).
Methods: Electronic patient records of 1088 patients who underwent ANC between 2007-2016 at the Royal Hallamshire Hospital, Sheffield, UK were reviewed. Clinicopathological characteristics were used to identify factors predicting lymph node metastasis.
Results: Larger tumour size (OR=1.025; CI=1.016-1.034; p<0.001), grade 3 (OR=3.706; CI=2.102-6.534) and grade 2 tumours (OR=2.174; CI=1.245-3.795) compared to grade 1 tumours (p<0.001), presence of lymphovascular invasion (LVI) (OR=2.832; CI=2.064-3.885; p<0.001), ER-negative tumours (OR=2.339; CI=1.472-3.717; p<0.001), and number of positive SLNs (OR=1.756; CI=1.333-2.313; p<0.001) were all significantly associated with non-SLN metastasis. In addition to these characteristics, lobular carcinomas (OR=1.832; CI=1.157-2.899; p=0.034) and multifocal tumours (OR=1.717; CI=1.108-2.662; p=0.016) were also significantly associated with level 3 disease. In patients who underwent NAC, larger tumour size (OR=1.040; CI=1.025-1.056; p<0.001), presence of LVI (OR=3.030; CI=1.673-5.488; p=0.001), and HER2-negative tumours (OR=1.983; CI=1.177-3.343; p=0.01) significantly predicted non-SLN metastasis, despite treatment. These same variables significantly predicted level 3 metastasis.
Conclusion: Based on the significant associations identified**,** multivariate analysis and development of an accurate model of predicting non-SLN metastasis will allow patients to make a more informed decision as to whether they wish to proceed with full ANC, participate in a clinical trial, or choose to have their axilla re-staged following neoadjuvant chemotherapy.

P037. MAGSEED LOCALISATION OF NON PALPABLE BREAST CANCER. IS THE FUTURE MAGNETIC?

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Introduction: Magseed is an alternative method of localising non palpable breast lesions that has addressed many of the limitations of wire guided localisation. It consists of a paramagnetic seed that can be visualised on mammography and ultrasound. Intraoperative localisation of the seed is achieved with the use of the Sentimag probe. The aim of this study was to prospectively compare localisation in patients undergoing wide local excision for non palpable lesions between Magseed and wire guided localisation.
Methods: We prospectively collected data on all patients undergoing image guided wide local excision between October 2017 and September 2018 in two academic breast units with a planned accrual of 100 consecutive patients undergoing Magseed localisation. Data was also collected on a cohort of 100 consecutive patients undergoing wire guided localisation in the same time period.
Results: Demographic and disease characteristics were well balanced

between the two groups. Intraoperative identification and excision of the localised lesion was successful in all patients as confirmed with specimen radiography. Overall no significant differences were observed in the proportion of patients requiring re-excision between the two groups (Magseed 16% vs. WGL 14% p=0.692). Specimens size by weight were similar for both groups; the mean weight was 39.6 gr in the Magseed cohort and 44.5 gr in the wire localisation cohort (p=0.206).
Conclusions: In our series Magseed localisation proved to be as reliable and effective as wire guided localisation in terms of lesion identification, excision with tumour free margins, re-operation rate and specimen weight.

P038. AN OBJECTIVE AESTHETIC OUTCOME TOOL USING 3-DIMENSIONAL SURFACE IMAGING (3D-SI) TO REPLACE PANEL ASSESSMENT FOR BREAST CONSERVING TREATMENT (BCT)

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Introduction: The aesthetic goal for BCT is maintenance of symmetry. No gold standard exists to evaluate aesthetic outcome. Panel assessment is most commonly used. With heterogeneous methodology, inherent bias, and poor internal consistency, comparison is unreliable. 3D-SI has advantages over standard photography in that it provides additional views and measures, is quick and simple, and does not require a photographer. It is, however, more expensive. We describe the development of an objective outcome tool using 3D-SI.
Methods: REC approved study. 290 women who underwent BCT 1-5 years previously had 3D-SI (VECTRA XT). 3D measures were derived using Mirror™Software, and panel assessment was performed (5 members, blinded to patient ID and surgeon, Harvard 4-point scale). 190 women comprised a training set to create the tool. Measures were entered into a multivariate model to predict panel score. The predicted scores of the remaining 100 women were compared to observed panel assessment for validation.
Results: 6 objective measures were significantly associated with panel score by multivariate analysis and were used in the tool. Correlation between predicted and actual panel score for the training and validation set was moderate (R=0.67 & 0.65 respectively). Limits of agreement in Bland Altman were -1.2 to 1.2 in the training set and -1.2 to 1.1 for the validation set.
Conclusions: The preliminary tool has reasonable correlation but defaults towards the median panel score. Adjustment may be required to improve clinical utility. This objective tool will enable the communication and comparison of results in research and provides a method to benchmark clinical performance.

P039. LAVAGE COMBINED WITH MINIMALLY INVASIVE SURGERY IN TREATMENT OF PLASMA CELL MASTITIS: A CLINICAL STUDY

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More often seen as plasma cell mastitis (PCM) and granulomatous mastitis, non-lactating mastitis is regarded as one of the world's difficult and complicated diseases. Due to such characters as suddenness, rapid progress, difficult to cure, long course of disease and easy recurrence, the disease is called "non-fatal cancer." The average age of patients is 32, and the clinical manifestation is breast lumps accompanied by painful ulceration. Traditionally the treatment of the disease used to be surgical resection and incision drainage; however the treatment not only had a recurrence rate of 48.84% but also had a tendency of destroying the shape of the breasts. This presentation reports our treatment of the disease through individualized technical means such as duct scope, assisted vacuum resection, intravenous needle indwelling as well as single or combined syringe for flushing, repairing inflammatory areas to gain clinical effect of achieving complete and seamless healing. The report highlights the innovation in four aspects: (1) Breast tissue resection defects were avoided; (2) The treatment process is simple and there is less pain in the wounds; (3) Economical and practical (4) Preservation of breasts and prevention of recurrence and (5) It is likely to be the first in China.

P040. RADIOLOGICAL AND SURGICAL EFFICACY OF NEOADJUVANT SINGLE VS DUAL BLOCKADE IN HER 2 POSITIVE BREAST CANCER AND ITS IMPACT ON SURGICAL PLANNING: A RETROSPECTIVE SINGLE CENTRE STUDY

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Introduction: Dual anti-HER-2 therapy with pertuzumab and trastuzumab has been shown to increase rates of pathological complete response in HER-2 positive breast cancers. The use of dual blockade was approved by NICE in Dec 2016, however the benefit is yet to filter into surgical practice to allow an increase in rates of breast conserving surgery.
Methods: A locally approved retrospective single centre service evaluation analysing all HER-2 positive patients managed with neoadjuvant chemotherapy (NACT) between January 2015 and April 2017. Breast imaging was also evaluated to ascertain correlation to surgical findings.
Results: 55 HER-2 positive non-metastatic breast cancer patients received NACT; of these 48 (24 dual blockade vs 21 trastuzumab alone) had MRI prior to and following chemotherapy. Dual blockade had greater radiological complete response (rCR, 71% vs 21% Herceptin) and superior pathological complete response (pCR). In respect to lymph node disease, rCR was achieved in 69% of patients managed with dual blockade (9/13) vs Trastuzumab alone (64%, 9/14). pCR was achieved in 73% cases treated with dual blockade (11/15), vs 28% (4/14) with trastuzumab. We intend to present our analysis on the potential impact on surgical planning with the change in the response rate by adding pertuzumab.
Conclusion: Use of neoadjuvant dual anti-HER-2 blockade increases rates of pCR and has the potential to increase BCS rates, leading to improved cosmesis and patient satisfaction.

P041. DO WAITING TIMES FOR SURGERY HAVE AN IMPACT ON BREAST CANCER TUMOUR SIZES?

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Background: Over the years, breast cancer incidence rates have been increasing, putting more pressure on the health service. With this yearly increase and the limitation of resources, there is always some waiting between presentation, diagnosis and treatment. This retrospective audit is to evaluate tumour growth while waiting for surgery (Approved by NHS Grampian Clinical Effectiveness Team).
Methods: Patients diagnosed with breast cancer who underwent wire guided wide local excision at Aberdeen Royal Infirmary in 2017 were identified and the first 100 were included. 62 of these patients had a measurable lesion on mammogram at presentation and on the day of surgery. The tumour diameters were measured by two radiologists independently comparing the mammograms at presentation and on the day of surgery. Tumour sizes were calculated as well as the difference between the sizes on presentation and on the day of surgery.
Results: The two radiologists had an Intraclass Correlation Coefficient of 0.812, showing that their measurements were in good agreement. Waiting times averaged 70 days. Paired t-test showed there was no significant difference between tumour volumes on mammograms taken at initial detection and on mammograms taken on the day of surgery ($p = 0.76$). Different waiting times from initial detection to surgery did not affect tumour volume significantly either ($p = 0$ .92). Paired t-test also showed that tumours did not change in grades significantly either ($p = 0.235$).
Conclusions: Delays in treatment did not cause significant increase in tumour size or cause an advancement in tumour grade.

P042. EVALUATION OF A BREAST CANCER SURVIVORSHIP PROGRAMME: 7-YEAR PATIENT OUTCOMES AND SERVICE EXPERIENCE

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Introduction: In 2018, the National Institute of Clinical Excellence published new guidance on the follow-up of early breast cancer on completion of initial treatment, reflecting a move from traditional follow-up, with increased focus on supporting holistic needs and developing an individual approach. Prior to this, the National Cancer Survivorship Initiative (NCSI) was established to prototype pathways of care for cancer survivors. This evaluation considers data gathered by Hull and East Yorkshire NHS Trust over 7 years as an NCSI vanguard, to examine the safety of the survivorship programme and to discuss our experience.
Methods: 12 months from curative surgery for primary breast cancer, patients received a surveillance mammogram and consultant surgeon review, followed by holistic needs assessment with a breast care nurse. Suitable patients received annual surveillance mammography for a subsequent 3 years with a final mammogram and consultant surgeon review at year 5.
Results: Prospectively gathered data from a sample of 436 consecutive patients entered into the programme during the first 2 operational years (2010-2012) is considered. 86% (n=374) completed the programme without disease recurrence. 9% (n=42) developed loco-regional recurrence, contralateral primary or metastatic disease.
66% required no unplanned clinical review. 150 patients (206 attendances) required additional review: 37% with endocrine therapy side effects, 21% with suspected breast lumps and 12% with back/bone pain, yet only 10% (n=20) of appointments confirmed disease recurrence.
Conclusions: Our survivorship programme is a safe method of delivering follow-up care, demonstrating significant improvement in usage of outpatient resources whilst empowering breast cancer survivors.

P043. SKIN SPARING MASTECTOMY WITH IMMEDIATE DERMAL SLING IMPLANT RECONSTRUCTION: AN ASSESSMENT OF OUTCOMES AND PATIENT SATISFACTION

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Introduction: Skin sparing mastectomy (SSM) with immediate dermal sling implant reconstruction is an innovative option in breast cancer management and relies upon the use of autologous tissue to facilitate implant placement. This technique is particularly useful in patients with a high body mass index (BMI) and/or large ptotic breasts. Clinical and patient satisfaction outcomes in SSM with dermal sling implant reconstruction were retrospectively assessed in a London teaching hospital.
Methods: All patients who underwent SSM with immediate dermal sling implant reconstruction were identified from August 2015 - May 2018 and included in this study. Notes were reviewed to identify complications and cancer recurrence rates. Patients were also contacted and asked to rate aspects of their experience on a Likert-type scale ranging from very dissatisfied to very satisfied.
Results: 28 patients were identified (average age=52, average BMI=31). 2 patients had cancer recurrence (7%). 3 patients (9%) suffered complications with implant loss (1 haematoma and 2 wound breakdown in smokers). At the time of study 10 (36%) patients had undergone contralateral symmetrisation. 14 patients answered questions on their experience. 71% were satisfied with the shape of their breast in a bra (57% extremely satisfied) and 64% were satisfied with the shape of their breast unclothed (50% extremely satisfied). 76% of patients were satisfied with their overall experience (57% extremely satisfied).
Conclusion: Patients who underwent SSM with dermal sling implant reconstruction exhibited low complication rates and high satisfaction levels. Future work comparing outcomes with alternative immediate reconstructive methods would give further valuable information.

P044. CLINICO-PATHOLOGICAL CORRELATES OF TRIPLE NEGATIVE BREAST CANCER AND FACTORS AFFECTING DISEASE FREE SURVIVAL-EXPERIENCE FROM A TERTIARY CARE CENTRE

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Introduction: Triple Negative Breast Cancer (TNBC) is an aggressive clinical subtype with different clinicopathological features than other subtypes
Methods: The clinical and pathological records, including follow up (minimum 2 years) of 220 patients with TNBC treated in the Breast Clinic at PGIMER, Chandigarh, India between 2010-2014 were reviewed. The clinico-pathological features were recorded, Disease free survival (DFS) calculated and correlation of standard prognostic factors with DFS was done.
Result: Out of 220 patients analyzed, stage II formed the majority - 62.2%; 46.36% were node negative. Infiltrating ductal carcinoma NOS was the most common pathological subtype (91.9%), higher grade tumours were more common (Grade-3-57.6%). 74/220 patients received neoadjuvant chemotherapy with pathological complete response rate of 37.84%. DFS at 5 years for the entire study population was 85.2% (80-90.7%)(DFS at 5 years 88.8% for early breast cancer and 81% for locally advanced breast cancer). At average 4.4 years follow up - 31/220 (15%) of the patients had a breast cancer event.
On univariate analysis tumour stage, tumour size, pathological nodal status and presence of lymphovascular invasion (LVI) were factors significantly associated with DFS (p=0.0001;p=0.0002;p=0.0006 and p=0.041 respectively). On multivariate analysis, tumour size (p=0.0004) and presence of LVI (p=0.003) remained significant. Type of surgery performed (mastectomy versus breast conservation) did not make a difference to DFS (p=0.275).
Conclusion: TNBC are higher grade tumours but have a higher pathological complete response rate (37.8%).Traditional prognostic factors- tumour stage, tumour size, nodal status and presence of LVI continue to be determinants of DFS.

P045. SHOULDER FUNCTION FOLLOWING LATISSIMUS DORSI FLAP RECONSTRUCTION WITH PERIOPERATIVE REGIONAL BLOCK

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Introduction: Extended latissimus dorsi (ELD) reconstruction is a straight forward autologous reconstruction however it has historically been associated with a degree of shoulder morbidity. Since the introduction of perioperative regional blocks with accelerated recovery and discharge anecdotally this seems to have improved.
Aim: To assess the rate of shoulder dysfunction in patients who underwent regional anaesthetic assisted LD breast reconstruction.
Method: LREC/HRA approved patient questionnaire study of a single breast unit's consecutive ELD patients who received supplementary regional block (paravertebral, interpleural or combination Pec block). Outcome measured via validated postal Disability of Arm and Hand (DASH) questionnaire.
Results: 41 female patients were approached for this study, 32 responses (78%). Mean age 59 (32-71), mean follow up of 18 months (4-31), mean DASH Score in cohort = 13.2 (0-52.6), 25/32 patients had scores between 0 and 20. (Normal population mean DASH = 10.1).
Conclusion: The majority of patients undergoing ELD reconstruction with perioperative regional block have minimal shoulder dysfunction. This snap shot study will be the basis of an extended prospective study
DASH Score Distribution

DASH score range	0-10	11-20	21-30	31-40	41-50	51-60
Number of patients	15	9	3	2	1	1

P046. ASSESSMENT OF RATES OF LOCAL RECURRENCE IN A SYMPTOMATIC CENTRE FOLLOWING BREAST CANCER SURGERY

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Introduction: The Association of Breast Surgery (ABS) recommends mandatory rates for local recurrence of 5% at 5 years following breast

cancer surgery, with <3% being the optimal. This study evaluates the rates of local and distant recurrence at one symptomatic centre.
Methods: Data including patient demographics, tumour characteristics and surgical treatment from all patients undergoing breast surgery between 2011 and 2012 was collected from MDT, electronic patient records; operation notes and pathology reports. The endpoints in this study were local and distant recurrence; and disease-free survival.
Results: There was 3.4% local and 8.5% distant recurrences. The median time to local and distant recurrence was 33.7 months (9.4-88.0) and 35.4 months (5.7-76.9) respectively. Nodal stage predicted local recurrence, with an OR for stage N3 of 8.353 (p=0.023) and also predicted distant recurrence in stage N3 with an OR of 17.085 (p=<0.0001). Mastectomy was associated with a worse outcome compared to wide local excisions for distant recurrence (OR 2.456, p=0.037).

	All	WLE	Mastectomy	P-value
n	506	257	255	
Mean Tumour Size (mm)	25.3	18.8	31.7	
Node negative	330 (65.2%)	198 (78.9%)	132 (51.8%)	≤0.001
N2/N3	63 (12.4%)	16 (6.4%)	47 (18.5%)	≤0.001
Recurrences				
Local	17 (3.4%)	6 (2.4%)	11 (4.3%)	
Distant	43 (8.5%)	10 (4.0%)	32 (13.0%)	≤0.001

Conclusion: The ABS mandatory target for local recurrence was met by this centre. Distant and local recurrences were more likely to occur after 3 years and nodal status predicted both with high fidelity. Furthermore, mastectomy was associated with higher rates of distant recurrence.

P047. DERMAL FLAP AND IMPLANT-BASED RECONSTRUCTION - A USEFUL TECHNIQUE

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Introduction: Immediate breast reconstruction using dermal flap (DF) and implant is a recognised technique for immediate breast reconstruction where skin reduction is needed.
Methods: Data was collected from a prospectively maintained database and also from electronic hospital database (Lorenzo). Patient demography, technique, use of implant, early and late outcome including aesthetic result and patient satisfaction were recorded.
Results: A total of 63 DF-based reconstructions were performed on 50 patients between June 2008-Oct 2018. Mean age of patients was 50 years (range 30-72years). Majority (73%) were done for cancer, 24% for risk-reducing prophylaxis and 2 for symmetrisation. 24% had BMI>30 and 43% were ASA II. A small patch of ADM was used to cover the implant laterally in 60%, 21% had serratus-anterior flap and 18% had complete cover with DF itself. Complications included unplanned use of antibiotics (8%), bleeding T-junction necrosis, return to theatre and implant loss 6% each. There was no significant difference in infections in patients based on BMI, breast size, other comorbidities or with use of neo adjuvant chemotherapy. Grade 2/3 capsular contracture was seen in 6 cases. Capsular contracture was significantly higher in patients who had radiotherapy (55% vs 17%, p=0.002).
Conclusion: DF based breast reconstruction is a good option in patients in need of skin reduction. In the author's experience this was associated with acceptable complications and capsular contracture rates in patients not requiring radiotherapy.

P048. INTERIM ANALYSIS OF AN EVALUATION OF CLINICAL SERVICE IMPACT OF SWITCHING FROM WIRE TO MAGNETIC SEEDS FOR LOCALISATION OF IMPALPABLE BREAST LESIONS FOR SURGERY

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Introduction: Impalpable breast lesions require localisation prior to surgery. There is renewed interest in methods to avoid the logistical constraints of wire localisation which remains the most commonly used technique in the UK. We sought to investigate the impact on our practice of changing to magnetic seed (Magseed) localisation.
Methods: A prospective service evaluation of consecutive cases was set up with Clinical Research Committee approval. Data were collected on aspects of workflow such as duration of localisation and surgery, causes of delays and the impact on concurrent activities such as the diagnostic clinic.
Results: To date, 124 consecutive cases used wire localisation and 62 subsequent cases used Magseeds. Magseed cases had statistically significantly shorter localisation time than wires regardless of whether ultrasound (median = 10 vs 20 minutes, Kruskal Wallis test $p=2.9*10^{-6}$) or stereotactic localisation was used (12 vs 20 minutes, p=0.01). A greater proportion of Magseed cases were first on the operating list (25.8% vs 15.3%). 19% of the cases of delayed arrival in theatre in the wire cohort were attributed to delay with localisation, compared with zero for Magseeds to date. There was no difference in surgical time for standard wide local excision cases between the two groups.
Conclusions: Interim analysis suggests that some of the potential benefits of magnetic seed localisations are being realised, including more rapid throughput in radiology and streamlining of theatre workflow. Full results will be presented in April 2019.

P049. OUTCOMES OF BREAST CANCER MANAGEMENT FROM AN URBAN SPECIALIST BREAST CENTRE IN SOUTH INDIA

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Introduction: The disease pattern and presentation of breast cancer in India are thought to differ from the West. The purpose of this study is to describe and to discuss the presentation, clinicopathological data, and survival from an urban specialist breast center in Southern India.
Materials and Methods: Prospectively collected data were analyzed for clinicopathological details, treatment variables, and survival outcomes were analyzed. Cumulative survival curves were estimated using the Kaplan–Meier method for patients treated from 2007 to 2011.
Results: A total of 1671 patients were operated at our centre from January 2007 to December 2016. Average age at diagnosis was 54.2 years. Over 70% had Stage I and Stage II disease, infiltrating duct carcinoma was predominant in 88.2%. Average clinical tumor size was three centimeters. Breast conservation was performed in 22.4%. Sentinel lymph node biopsy was performed in 44.6%. Oestrogen receptor positivity was seen in 64.6%, 22.2% were Her2Neu positive. Triple negative disease was seen in 19.1%. Survival analysis was done using the Kaplan–Meier curves for 540 patients treated from 2007 to 2011. The median follow-up of surviving patients was 70 months with 10% lost to follow-up. In our study population, the 5 years overall survival rate is 88.3% and disease-free survival is 85.7%.
Conclusion: Our study reflects a higher percentage of early breast cancer with outcomes comparable to the West. More research is required to understand the genetic predisposition in our population.

P050. PERIOPERATIVE MANAGEMENT OF ANTICOAGULATION IN HIGH-RISK BREAST SURGERY PATIENTS: DEVELOPMENT OF A MULTIDISCIPLINARY CONSENSUS PATHWAY

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Introduction: Patients at high risk for thromboembolism undergoing breast surgery require multidisciplinary management of their anticoagulation to carefully balance the risk of thromboembolism and bleeding. However, there is a lack of published guidelines on the perioperative management of anticoagulation specific to the wide range of breast surgery operations and insufficient evidence to justify the application of guidelines developed for other specialties.

Methods: A literature search was performed, reviewing evidence regarding venous thromboembolic events in breast surgery and perioperative risk assessment and management of anticoagulated patients at high risk for thromboembolism. Data regarding post-operative haematomas was also reviewed. Literature was presented in a multidisciplinary forum and a consensus pathway developed in conjunction with cardiologists, haematologists and surgeons.
Results: In patients deemed to be low risk for thromboembolic events, the risk in breast cancer surgery is low. However, the high-risk group require individual assessment. A balance of risks between thromboembolism and bleeding is essential. Thromboembolism in this group has potential severe sequelae. Our local pathway includes a risk assessment model to stratify those patients who require bridging anticoagulation with heparin. In particular we review the assessment of patients with atrial fibrillation, coronary stents, and mechanical heart valves.
Conclusion: There is a need for a structured pathway for the multidisciplinary management of high-risk patients. Risk stratification is paramount in ensuring safe patient care. National guidelines are needed to ensure that these patients receive the appropriate cancer treatment whilst their risk of thromboembolism and bleeding is managed safely and appropriately.

P051. CLINICO-PATHOLOGICAL FEATURES OF SYNCHRONOUS BREAST CANCERS IN NORTHERN IRELAND, 2000-2015

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Introduction: The reported incidence of Synchronous Breast Cancer (SBC) is 1-3%. The optimal surgical management of these patients remains unclear, given that it has not been possible to fully characterise the relations between tumours. We present clinic-pathological data for a cohort of SBCs in Northern Ireland (NI) between 2000-2015.
Methods: Women diagnosed with SBC were identified from a search of the NI Cancer Registry. Histopathology reports were reviewed to identify the pathological features of tumours & biomarker expression. Clinical data on surgical procedures performed and adjuvant therapy was also collected.
Results: 195 cases were studied. Mean age at diagnosis was 66 years (Range 32-93). Overall 5-year survival was 69.1%. Concordance of tumour type & biomarker expression where available are recorded in Tables 1 & 2. 102 patients (64%) had bilateral mastectomies as their initial surgical procedure, 42 had breast conserving surgery.

Table 1	Concordant	Missing (n)
ER Status	90 % (n=161)	17
PR Status	76 % (n=97)	68
Her2 Status	85 % (n=133)	43

Table 2	Concordant	Disconcordant	Missing (n)
Overall	75 % (n=130)	25% (n=42)	23
IDC (b/l)	70 % (n=121)	-	-
ILC (b/l)	3 % (n=6)	-	-
Mixed (b/l)	2 % (n=3)	-	-

Conclusions: A significant proportion of tumours shared pathological characteristics. Concordance of biomarker expression is similar to that reported in the literature. It remains unclear how SBCs are related, although this cohort may have a worse prognosis than unilateral cancers. The pathological features of tumours are not a reliable method of characterising relationships and examination of tumours at a genomic level is required to elucidate this.

P052. MANAGEMENT OF OCCULT BREAST CANCER (T0N1/2/3): WHAT IS THE EVIDENCE?

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Introduction: Occult breast cancer, T0N1/2/3, presenting with a palpable axillary lymph node accounts for less than 1% of all breast cancers. Due to its relative rarity there have been limited data published on it. This study aimed to systematically evaluate available data on occult breast cancer.
Methods: Eligible studies were identified on Medline and Embase updated to the 8th of January 2018. Studies with sufficient comparative data were included, review articles and individual case reports were excluded.
Results: 46 studies were identified. The period of analysis ranged from 1965 to 2011. Mean incidence was 0.39% (Range 0.10 to 0.84%). 2078 patients with occult breast cancer were included, 931 (44.8%) were treated with mastectomy and axillary node dissection (ALND), 361 (17.4%) were treated with breast conserving surgery and ALND, 339 (16.3%) were treated with ALND alone, 75 (3.6%) were treated with breast radiotherapy and ALND and 130 (6.3%) were treated with observation alone. Survival was worse and loco regional recurrence was higher in those treated with observation of the breast alone. Analysis of mastectomy specimens revealed a primary lesion in 72.0% of cases.
Conclusion: There is significant variation in treatments, though the data accrual has been conducted over large periods of time, with diagnostic options and systemic treatments evolving over this time. Treating occult breast cancer with observation is inferior to other methods. There is a need for further research into this area.

P053. MANAGEMENT OF PATIENTS OVER THE AGE OF 80 DIAGNOSED WITH BREAST CANCER: A SINGLE CENTRE EXPERIENCE OF TREATMENT OPTIONS AND LONG TERM OUTCOMES

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Background: Elderly breast cancer patients are less likely to undergo surgery than those under 50, 39% vs. 90%. We undertook this study to gain an overview of our current practice in treating elderly patients.
Methods: Patients aged 80 years or older diagnosed with invasive breast cancer between 2008 and 2012 were identified from the hospital database. Multiple variables were collected including: tumour biology, primary treatment, comorbidities and long-term outcomes.
Results: 311 patients were identified in the study period of which 59 were excluded due to a lack of documentation. 45% (n=141) had upfront surgery and 33.1% (n=103) received primary hormone therapy.
Surgical patients were younger (median 84) and fewer co-morbidities (median Charlson Comorbidity Score of 4). Primary hormone patients had a median age of 87 and a median Charlson score of 5.
Most primary hormone patients received aromatase inhibitors, 90% (n=93) vs. 10% (n=10) who received Tamoxifen. 23 (22.3%) patients had disease progression of whom 52% (n=12) received alternative hormone therapy, 30% (n=7) received radiotherapy and 21% (n=5) had surgery. Median time to progression was 17 months (n=2-79).
Surgical patients had a significantly greater 5-year survival, 74% (n=105) compared to 36% (n=39). Almost 80% (n=82) primary hormone patients died with a median time from diagnosis to death of 24 months (1-84).
Conclusions: A higher proportion of elderly patients treated in Gloucester have surgery than the national average (45% vs 39%). Surgical patients tend to be younger with fewer co-morbidities. Primary hormone therapy is a suitable treatment in high-risk surgical candidates.

P054. EMERGENCY READMISSIONS AFTER BREAST SURGERY: CAN WE TRUST MODEL HOSPITAL?

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Introduction: Model Hospital (MH) is a digital tool introduced by NHS Improvement. NHS Trusts are expected to use this to drive improvements in productivity and outcomes by benchmarking their results against national results. A review revealed Royal Devon and Exeter as an outlier for 30 day readmissions. This was identified as the largest opportunity for improvement. We carried out a review of coded unplanned emergency admissions within 30 days of breast operations.
Methods: Data was collected for a 21 month period from January 2016 to September 2018. All consecutive patients who underwent breast surgery by breast surgeons were included and those with an unplanned admission within 30 days underwent further review. The reason for readmission was crosschecked with clinical notes and discharge summaries.
Results: 2245 admission episodes for breast surgery were recorded for 5 breast surgeons. Overall readmission rate was recorded at 4.14% (93) and readmission with direct surgical complications was 2.18% (49). 25 of these were day attendances at the surgical assessment unit. Surgical complications seen were 42.8% (21) with infection, 22.5% (11) with haematoma, 12.2% (6) with seroma and 8.2% (4) with pain. 47.3% (44) reported readmissions were due to unrelated medical problems, chemotherapy complications or data errors.
Conclusion: The results available on MH are not a true reflection of our outcomes due to inaccuracies in the data uploaded. 236 patients reported to MH had not had breast surgery. Only a quarter of reported readmissions were true overnight admissions relating to surgical complications.

P055. DAY-CASE MASTECTOMY TARGET: ACHIEVABLE AND SUSTAINABLE FOR THE FUTURE OF THE NHS

Claudia Wilson, Gwen Bromley, Annie Chan, Mujahid Pervaz. *Queen Elizabeth Hospital, Gateshead, United Kingdom*

Introduction: Mastectomy remains a commonly used surgery in the management of breast cancer. National guidelines now recommend that we aim to carry out 50% of mastectomy procedures as day-cases. This project assesses how achievable the recommended day-case mastectomy (DCM) rates are within our trust, how DCM rates can be improved and whether this can be applied to other trusts.
Methods: All mastectomy cases were evaluated from February to August 2018 at a District General Hospital following an initial audit in 2017 identifying DCM rates much lower than the national 50% target. We undertook retrospective analysis of electronic records of all patients who underwent mastectomies.
Results: 82 patients were included for analysis and the average age was 58. Overall 54.9% had their mastectomies as day cases, including patients with immediate reconstruction and all nodal procedures. 62% of patients who underwent simple mastectomies had their procedures done as day-cases compared to 35% of patients in 2017. Mean length of stay decreased for all types of mastectomies over this period compared to the previously audited period.
Conclusion: The rate of day-case mastectomies has improved significantly from 2017 to 2018. This has been attributed mainly to a drive to adjust patient expectations. This has had huge financial implications in the trust. Further work should be done nationally with patients and clinicians to make day-case mastectomies a part of routine surgical practice.

P056. COMPARISON OF POST NEOADJUVANT MRI AND HISTOLOGY RESULTS

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Introduction: MRI scans are performed to assess extent of disease and monitor treatment response to neoadjuvant chemotherapy. MRI scans are done towards the end of neoadjuvant chemotherapy to finalise treatment plans. The aim of this study was to compare the MRI findings with the final histology results.
Methods: All patients who underwent neoadjuvant chemotherapy from January 2015 to December 2017 were retrospectively identified. Patients with recurrent disease or those who had only baseline scan were excluded. Data on the tumour biology, size of the tumour on last MRI scan and final histology results were recorded. A size difference of $\leq$ 3 mm between the MRI and final histology was deemed concordant.
Results: Of the 136 patients, 60% were triple negative breast cancers, 19% ER negative HER 2 positive, 13% ER positive HER 2 positive and 8% ER positive HER 2 negative. Concordance of MRI and histology findings was seen in 25% patients who had MRI scan before the fifth cycle and in 57% who had MRI after fifth cycle of chemotherapy. There was 80% concordance when there was complete pathological response.
Conclusion: There is increased concordance when MRI scan is performed after fifth cycle. Complete pathological response can be predicted in a majority of the cases. Further studies with large numbers are needed to change current practice.

P057. POSITIVE AXILLARY NODE BIOPSY IN EARLY BREAST CANCER. CAN PATIENTS AVOID AXILLARY CLEARANCE?

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Introduction: Pre-operative positive lymph node biopsy has been considered synchronous with high axillary disease burden and subsequent axillary clearance. Our study aimed to evaluate if a subgroup exists with minimal disease of <3 lymph nodes in patients with clinically node negative early breast cancer and biopsy proven axilla. Such patients could avoid axillary clearance and have treatment extrapolated on Z-11 and AMAROS trials.
Methods: Prospectively collected 5 years' data in a single centre was evaluated. Patients included had cT1-2 N0 breast cancer who underwent axillary dissection based on positive axillary ultrasound biopsy.
Primary outcome was nodal count on final histology. Tumour characteristics and number of abnormal lymph nodes on ultrasound were recorded and compared with primary outcome. Statistical analysis used chi square and t-test.
Results: Seventy patients with cT1-2N0 disease had axillary clearance for positive ultrasound guided lymph node biopsy. Thirty two (46%) women had 1-2 lymph nodes in the final histology of axillary clearance while 38 (54%) had $\geq$3 positive lymph nodes. Lymphovascular invasion was found in 35 (50%) patients and >1 abnormal lymph nodes were seen on ultrasound in 32 (46%) patients, both variables were significantly associated with final histology of $\geq$3 positive lymph nodes ($p=0.05$ and 0.009 respectively).
Conclusion: Positive axillary node biopsy does not accurately predict extensive lymph node involvement in clinically node negative early breast cancer. A larger prospective study is needed to identify other predicting factors and patients eligible for sentinel lymph node biopsy instead of axillary clearance.

P058. DEEP INFERIOR EPIGASTRIC PERFORATOR FLAP FOR BREAST RECONSTRUCTION: AUDIT OF 8-YEAR SINGLE TRUST EXPERIENCE

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Introduction: Deep Inferior Epigastric Perforator Flap (DIEP) is a method of breast reconstruction that involves harvesting skin and adipose tissue from the lower abdomen – thus sparing the abdominal musculature and reducing donor site morbidity. In this audit, we compare our single centre complication rates against the standard defined in the 2010 National Mastectomy and Breast Reconstruction Audit.
Methods: All patients who have undergone breast reconstructions by DIEP flap between 2010 and 2017 are included in our study. All surgeries were performed by two consultant plastic surgeons within the Northumbria Healthcare Trust. Data from our specialist MDT-held database are analysed by patient demographics, pre-operative co-morbidities, immediate or delayed reconstruction, and post-operative morbidities.
Results: Over the eight year study period, 117 patients have undergone

DIEP flap reconstruction – of which 19 were bilateral reconstructions, giving a total of 136 DIEP flaps. 29.4% (n=40) were immediate reconstruction and 70.6% (=96) were delayed reconstruction. A total of 13 complications are accounted for. Our flap failure rate and non-flap related complications are 2.1% and 15.8%, this is significantly lower than 10.1% and 42.4% in the 2010 national audit.
Discussion: We attribute our low complication rates to several factors. Firstly, only two surgeons are assigned DIEP flap cases – having a high case volume led to a reduction in operation time which reduces risks associated with ischaemia. There is also a pre-operative CT angiogram protocol which reduces the time taken to locate a suitable donor perforator whilst in theatre.

P059. WEARABLE SENSING FOR QUANTIFICATION OF UPPER LIMB MORBIDITY AND RECOVERY AFTER BREAST AND AXILLARY SURGERY – A PILOT FEASIBILITY TRIAL

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Introduction: Upper limb morbidity complicates breast and axillary surgery. However there is little objective or quantitative evidence, which is largely based on anecdote or subjective measures. This work tests the feasibility of wearable activity sensors to provide objective functional data to delineate the impact of breast and axillary surgery.
Methods: Following approval by the National Research Ethics Service (Ref:15/LO/1038), a prospective observational study was conducted in which patients undergoing breast and axillary surgery were fitted with a lightweight activity monitor on each wrist (AX3, Axivity, UK) and asked to complete function (DASH) and quality of life (EQ-5D) questionnaires perioperatively. Longitudinal activity data were analysed to produce recovery curves, inter-arm comparisons, and correlations with quality of life.
Results: Between April and October 2018, 14 patients were recruited at Imperial College Healthcare NHS Trust. An increase in physical activity was seen post-operatively with a statistical plateau measured at 7 days. Significantly greater activity was observed in the control arm compared to the operative arm (Mann Whitney U, p=0.001). The greatest difference between arm activity was observed at post-op day 1 (35%), but was also present out to week 2 (16%). Activity levels correlated well with pre- and post-operative quality of life surveys (mean $R = 0.643$, $p<0.05$).
Conclusions: This study provides objective data on arm recovery in patients undergoing breast and axillary surgery, capturing the morbidity via disparities in activity between arms. Expanding the dataset may provide a useful adjunct for personalising rehabilitation in enhanced recovery protocols.

P060. CLINICAL OUTCOMES AND TRAINEE EVALUATION OF INTRAOPERATIVE ULTRASOUND GUIDED LOCALISATION OF IMPALPABLE BREAST LESION (IOL) TRAINING IN THE CAMBRIDGE BREAST UNIT (CBU)

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Introduction: Intraoperative ultrasound guided localisation of impalpable breast lesions (IOL) is incorporated into the standard practice of the Cambridge Breast Unit (CBU) with low re-operation rates and specimen weights compared with national standards.
A training programme for IOL was established for senior breast trainees. This study evaluates the clinical outcomes and feedback of trainees who have completed the IOL programme.
Methods: Two senior breast trainees with prior formal breast ultrasound training were given one to one training by a consultant surgeon competent in IOL. Once they were deemed competent they performed IOL independently. We retrospectively collected their re-operation rates and specimen weights and compared this to preoperative localisation outcomes for the CBU.
Their training was evaluated with a detailed questionnaire.
Results

Number of IOL completed before trainees felt competent to perform independently	15
Misplaced wires	0
Wire related complications	0
Time taken to complete IOL at end of training (minutes)	5-10
Trainees who would incorporate IOL into their consultant practice	100%
Trainees who feel competent to teach IOL to breast trainees	100%
Trainees who would recommend IOL to breast trainees	100%

	IOL Trainees	Preoperative localisation CBU	
Re-operation rate	3.6% (2/55)	19.4% (35/180)	*p value of 0.0048 (Fishers exact).*
Mean average specimen weight (g), range (g)	36.6, (6.5-237)	36.3, (2.5-146)	

Conclusion: This study shows that trainees who completed IOL training in the CBU had low re-operation rates and specimen weights. IOL can be taught safely, skills gained quickly and incorporated into daily practice with good outcomes.

P061. EFFECT OF POVIDONE- IODINE DRESSINGS ON SURGICAL SITE INFECTION RATE: A RANDOMISED CONTROLLED TRIAL

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Introduction: The incidence of infection after breast cancer surgery is low. However, any infection can delay adjuvant treatment. The aim of the study was to compare povidone iodine dressing against dry dressing for rates of infection and delay in wound healing.
Methods: A single centre, double blinded, randomised controlled trial was carried out between October 2014 and May 2015. Patients undergoing breast cancer surgery were included in this study. Exclusion criteria were diabetic or immunocompromised patients, patients on oral steroids, those who had neo-adjuvant chemotherapy, an allergy to iodine or were undergoing immediate breast reconstruction. Patients were randomised into two groups: Group 1 had their wound dressed with steristrips, dry blue gauze and clear water-proof dressing; group 2 had the same dressing with the blue gauze soaked in povidone iodine. Envelope randomisation was carried out by nursing staff and the dressing applied after the surgeon had left theatre. Patients were followed up 2 to 4 weeks following surgery.
Results: 56 patients were enrolled in the study; 28 patients in each arm following randomisation. 1 out of the 28 patients (3.57%) who had dry dressing had a wound infection that resolved with antibiotics only. No patients who had povidone iodine dressing had a wound infection. There was no delay in wound healing in either group.
Conclusion: There appears to be no significant advantage of one type of dressing over the other. Further studies with larger numbers needs to be carried out.

P062. AN AUDIT OF PREPECTORAL BREAST RECONSTRUCTIONS USING THE BRAXON® ACELLULAR DERMAL MATRIX (ADM)

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Background: An audit of the Braxon® method of prepectoral, single stage, direct-to-implant, breast reconstruction was performed by looking at infection rates and implant loss in the first 90 days post operatively. These measures are vital for patient safety and are key aspects of the recovery

period.
Method: A retrospective audit between June 2017-August 2018, where thirty-five Braxon reconstructions took place within one South London Trust. Infection was defined as a patient needing IV antibiotics due to symptoms from the reconstructed breast between 7-90 days post operatively, or if there was microbiological data. Implant loss was if the implant needed removing. The audit was formally approved and presented within the Trust Clinical Governance framework.
Results: Thirty-three reconstructions took place for cancer and three for risk reduction (Age range 28-65).
In the 90-day period, infection/cellulitis had affected 6 (17%). Of these patients, half were previous or current smokers, and none had previously undergone radiotherapy. Two patients were affected by implant loss (5.7%). One due to nipple necrosis with wound dehiscence, the other due to infection. Both patients were aged over 50 and either a present or past smoker. The national figure for implant loss is similar at 6.9%.
Conclusions: The Braxon ADM method of reconstruction appears to be safe in relation to implant loss and infection rates, with this data being comparable to national data. The results emphasise the need for good patient selection. This centre is an active participant in the National Audit of immediate Breast Reconstructions (iBRA).

P063. IS SENTINEL LYMPH NODE BIOPSY (SLNB) REQUIRED PRIOR TO MASTECTOMY AND IMPLANT-BASED RECONSTRUCTION (IBR)?

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Introduction: In Milton Keynes University Hospital (MKUH) SLNB is performed as a separate procedure prior to breast reconstruction surgery. With reconstruction practices moving away from latissimus dorsi flaps towards IBR, the risk of pedicle damage if axillary clearance is required is not as significant of an issue. This service improvement project aimed to assess the feasibility of performing SLNB simultaneously with mastectomy and reconstruction to avoid additional surgery and any associated complications.
Method: Patients undergoing mastectomy and IBR between July 2017-August 2018 at MKUH were included. Data collected included age, axillary assessment (radiology, FNA or biopsy and/or SNLB) adjuvant therapy and post-operative complications.
Results: 46 patients were included. 28% (13 out of 46) had positive lymph nodes. Of these, 38% (5/13) were identified prior to mastectomy through ultrasound +/- FNA and the remaining 62% (8/13) were identified through SLNB. 89% (41/46) of patients had SLNB prior to mastectomy. SLNB led to a change in planned treatment, with patients receiving neoadjuvant chemotherapy prior to mastectomy in 11% of cases.
Conclusions: Just over 1 in 10 patients required a second axillary procedure following SLNB or had their management plan altered based on the results. Changing practice to perform SLNB simultaneously with the mastectomy and IBR is feasible, with increasing preference for IBR removing the risk to pedicled flaps. Increased image guided biopsies potentially reduces the positive SLNB rate further. Simultaneous SNLB and breast surgery would remove the risk of two procedures, expedite patient management, both directly and indirectly, and reduce admissions.

P064. DOES SELECTIVE USE OF MRI IN NEOADJUVANT SETTING FACILITATE SURGICAL DECISION MAKING?

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Introduction: The aim of this study was to investigate the role of MRI in a select group of neoadjuvant chemotherapy patients and its impact on surgical decision making.
Methods: This is a study on 36 consecutive patients between August 2016-2018, with histologically proven breast cancer who received neoadjuvant chemotherapy (NAC) followed by curative surgery at a single centre. Information on tumour biology, MRI measurements, breast cancer management were obtained using hospital computer database.
Results: Of 36 patients, the majority were over 40 (69.4%). 66.7% had unifocal and 55.6% had node negative disease at presentation. Following local protocol, 17 (47.2%) patients underwent breast MRI before and after NAC to help guide decision making for breast conserving surgery. 19 (52.8%) patients did not undergo breast MRI as mastectomy was planned in MDT for reasons such as inflammatory cancer, multicentricity and patient's choice. Patients receiving NAC, who did not have MRI, were monitored with US. Of 17 patients who underwent breast MRI, 11 (64.7%) patients had complete radiological response after NAC. 9 (52.9%) patients who had breast MRI went on to have WLE while 2 had mastectomy (patient's choice). Of the 11 patients who had complete radiological response on breast MRI, 8 (72.7%) had complete pathological response on final histology. All patients who did not undergo MRI went on to have mastectomy as decided in MDT before offering NAC.
Conclusions: Selective use of MRI in patients receiving neo-adjuvant chemotherapy is cost-effective, helps in closely monitoring the disease response and facilitates surgical decision making.

P065. NEO-ADJUVANT CHEMOTHERAPY IN A SEMI-RURAL DISTRICT GENERAL HOSPITAL: WHY NOT?

Irum Ali, Claudiu Bucata, Valentina Lefemine, Kelvin Gomez. *Nevill Hall Hospital, Abergavenny, United Kingdom*

Introduction: Neo-adjuvant chemotherapy (NAC) is a treatment modality used to downsize breast cancers. Its effectiveness is also a useful prognostic indicator for risk of recurrence. The aim of our study was to ascertain if this was achievable in a District General Hospital located in a semi-rural setting.
Methods: This was a retrospective review of the clinical data from all breast cancer patients undergoing NAC at Nevill Hall Hospital from January 2013-December 2017. Multiple datasets were produced and statistical analysis was performed using SPSS version 21.0. A p-value of < 0.05 was considered significant.
Results: There were 70 patients in our cohort, with a median age at diagnosis of 49 years and a median follow-up of 36 months. Breast Conservation Surgery (BCS) was performed in 29 patients (41.4%). Within this group undergoing BCS, 16 patients (55.1%) were meant to undergo mastectomies at the time of diagnosis. The median tumour size was 35mm at diagnosis and 16.5mm at final histology. Pathological Complete Response (PCR) was achieved in 18 patients (25.7%). 55% of patients achieving PCR had HER-2 positive disease ($p=0.03$). Of the 39 patients with node positive disease at initial diagnosis, 14 (35.8%) were node negative at final surgery. Recurrence and mortality rates were 12.9% and 8.6% respectively at a median duration of 21 months from diagnosis.
Conclusions: Our data show that with the correct elements in place, especially a robust MDT process, undertaking NAC in a semi-rural setting is achievable, to the benefit of all relevant patients.

P066. IMPLANT BASED RECONSTRUCTION: AN AUDIT OF PRACTICE IN A SEMI-RURAL DISTRICT GENERAL HOSPITAL

Claudiu Bucata, Irum Ali, Valentina Lefemine, Kelvin Gomez. *Nevill Hall Hospital, Abergavenny, United Kingdom*

Introduction: Implant-based procedures are the most commonly performed method for post-mastectomy breast reconstruction. Infection is the most significant complication as they are almost always associated with implant loss. Reported infection rates range from 1-35%. Our audit aimed to record our infection rates and to see if evolution of our protocols have made a difference.
Methods: A retrospective casenote review was undertaken on all patients who underwent implant based breast reconstructions at Nevill Hall Hospital (NHH) between January 2014 and July 2018. Datasets produced include type of surgery to breast and axilla, type of neoadjuvant or adjuvant treatment and complication rates. Statistical analysis was performed using SPSS version 21.0 and a p value of <0.05 was deemed significant.

Results: 63 patients underwent implant based procedures during this time-period. 3 patients had revision surgery performed at NHH after having their initial surgery elsewhere and were excluded from statistical analysis. All implants were inserted in the sub-pectoral plane. The overall implant loss rate is 6.7% (4 patients); one patient per year from 2014-2017. *Staphylococcus* species were isolated in 50% of infected implants. 75% of infected implants had a titanium mesh cover.
Adjuvant radiotherapy or chemotherapy on their own did not produce a significant difference in implant infection rates. When used in combination however, the infection rate rose to 14.2%.
Conclusion: Strict adherence to infection reducing protocols have maintained our infection rates at lower than the national average; however, there is still room for improvement as our practice continues to evolve.

P067. OUTCOMES FOLLOWING NEOADJUVANT CHEMOTHERAPY AT A DISTRICT GENERAL HOSPITAL

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Introduction: Neoadjuvant chemotherapy is used in select patients with breast cancer to shrink large inoperable tumours. We investigate the experience of a District General Hospital of the effect of neoadjuvant chemotherapy to achieve a complete pathological response in the breast and to facilitate breast conserving surgery.
Methods: Patients who had received neoadjuvant chemotherapy between 2009 and 2018 were included. Data was collected from the Somerset cancer database. We compared the initial surgical management plan with the actual operation performed to establish whether the patient received breast conserving surgery. Other variables included patient age, tumour type/size/grade, HER2/ER/PR status as well as clinical, radiological and histological response.
Results: 100 patients were identified, 11 were excluded as surgery was not performed. Almost half (48%) of patients had a partial pathological response, with 26% (n=23) achieving a complete response (PCR) and 26% (n=23) having no response. Of the 89 patients who proceeded to surgery; 25 (28%) had breast conserving surgery whilst in 64 (72%) cases there was no change to the initial surgical management plan. 52 patients had an initial positive axillary lymph node biopsy, with 37% (n=19) showing no evidence of nodal disease on completion clearance. 29% (n=26) of patients were HER2 positive with 11% having PCR. 31% (n=28) were triple negative with only 4% of those achieving PCR.
Conclusion: Neoadjuvant chemotherapy enabled just over a quarter of patients to benefit from breast conserving surgery and almost three quarters of patients achieved a meaningful pathological response to chemotherapy.

P068. AUDIT OF EARLY COMPLICATIONS AFTER IMPLANT ONLY RECONSTRUCTIONS IN A SINGLE UNIT OVER 8 YEARS DEMONSTRATING NO DIFFERENCE WHETHER THE NIPPLE IS CONSERVED OR NOT

Ling Tang, Natalie Chand, Dick Rainsbury, Siobhan Laws. *Hampshire Hospitals NHS Trust, Winchester, United Kingdom*

An audit was performed from a prospectively collected database of all implant based reconstructions over 8 years. The three month complication rate was collected per PATIENT and compared with the results at 3 months from the NMBRA and iBRA audits. The data from this audit includes the learning curve of 2 established oncoplastic consultants and two newly appointed consultants.
99 women underwent 49 skin sparing (SSM) or 50 skin and nipple sparing mastectomy (NSM) with immediate implant based reconstruction (predominantly Becker 25s) with a variety of slings (predominantly ADM). There are a mixture of subpectoral and prepectoral reconstructions and bilateral risk reducing cases. Most patients had a unilateral procedure for breast cancer. Complication rates have improved with time as expected with experience, better techniques and improved case selection.
The data shows no difference in complication rates between SSM and NSM.

	Total	Implant loss at 3 months	Unplanned return to theatre	Unplanned readmission	Implant loss since 2015
SSM	49	7 (14%)	11 (22%)	14 (28%)	13% (2/15)
NSM	50	6 (12%)	11 (22%)	11 (22%)	4% (1/22)
NMBRA		9%	5%	16%	
iBRA		8.9%	17.8%	17.8%	
Fisher's exact		NS 0.48	NS 0.57	NS 0.3	

This data shows that NSM is safe in implant only reconstruction. Other papers have demonstrated oncological safety of NSM with appropriate patient selection.
Surgeons should continue to strive to improve outcomes of implant only reconstructions but can be reassured that sparing the nipple will not affect failure rates.
This audit was registered with the Trust audit office.

P069. SIMULTANEOUS BILATERAL MASTECTOMIES

Samreen Khan, Ankur Patel, Steven Goh. *Peterborough City Hospital, Peterborough, United Kingdom*

Introduction: There is an observed increase in the number of simultaneous bilateral mastectomies for small unilateral breast cancer and for risk reduction purpose. We conducted an audit on this cohort of patients treated within our unit in the last 15 years.
Methods: A retrospective review of all simultaneous bilateral mastectomies between June 2002 and September 2018 was conducted. Cancer registry, case-notes and histopathological reports were used for data collection.
Results: One hundred and sixteen patients underwent simultaneous bilateral mastectomies over the study period. All cases were discussed and agreed by the breast MDT.

Indication	
Bilateral simultaneous cancers	38
Unilateral cancer with gene mutation	15
Genetic mutation with no cancer	9
Unilateral cancer	42
Family or previous history with no gene mutation	12
Total	116

Seventy-six out of 95 patients who had surgery for newly diagnosed cancer had a maximum tumour size of less than 40mm. For patients with simultaneous bilateral breast cancers, only 2 cancers were larger than 40mm. Seventeen patients were operated between 2002-2007, 35 patients between 2007-2012, and 64 patients between 2013-2018. Immediate breast reconstruction has increased from 30% in the first 10 years to 73% of mastectomies in the last 5 years. Mean hospital stay decreased from 5.9 to 2.9 days.
Discussion: There is a continued increase in requests for simultaneous bilateral mastectomies, even when not clinically indicated. This has obvious resource implications. Further studies are needed to assess the long-term effects of these operations on physical and psycho-social well-being of this patient cohort.

P070. IS THERE ANY ROLE OF PRE-OPERATIVE BREAST MRI ON BREAST CANCER TREATMENT PLANNING?

Masuma Sarker, Ankur Patel, Steven Goh. *Peterborough City Hospital, Peterborough, United Kingdom*

Aim: The use of breast MRI for pre-operative treatment planning remains controversial. MRI can lead to further intervention, with subsequent changes to the surgical planning. This study evaluated the impact of breast MRI on surgical planning and treatment of breast cancers in our breast unit.
Methods: A retrospective audit was conducted on all patients treated between January 2015 and December 2017. Cancer registry, case-notes,

radiological and histopathological reports were used for data collection.

Results: There were 1193 cases of new breast cancers diagnosed in this 36-month study period. Of these, 185 (15.5%) patients required pre-operative MRI. Indications for performing MRI were: dense breast tissue (55/185; 29.7%), mammographically occult (55/185; 29.7%), lobular carcinoma contemplating breast conserving surgery (45/185; 24.3%), and multi-centric cancers (20/185; 10.8%), to assess contralateral breast (6/185; 3.2%), occult primary (4/185; 2.2%).

One third (63/185; 34.0%) of the patients who had MRI were recalled for further investigations. Additional malignancies were found in 25 out of these 63 recalls (39.7%). Twenty five out of the 185 patients (13.5%) who underwent breast MRI had additional biopsy proven malignancies.

Sixty four out of the 185 patients (34.6%) who had pre-operative MRI had their initial treatment plan modified due to MRI findings. Median time from initial presentation to treatment was 44.5 days.

Conclusion: Without MRI, further malignancies would have been missed in this selected group of patients. Clear indications and local guidelines to determine the need of pre-operative breast MRI should be established.

P071. THE INVESTIGATION AND MANAGEMENT OF UNILATERAL NIPPLE DISCHARGE BY BREAST UNITS ACROSS WESSEX

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Introduction: 15,000 – 45,000 women present to UK breast clinics with nipple discharge each year. The incidence of malignancy in these women is 2.3-24.2%. Currently no formal guidelines are available on the best way to investigate and manage these women.

This project aimed to evaluate variations in practice in the investigation and management of women presenting with nipple discharge across Wessex and identify factors that could reliably predict outcome.

Methods: Breast units prospectively collected the following data on all new patients with unilateral nipple discharge: age, discharge colour, uniductal or multiductal, examination and imaging findings, cytology results and ultimately outcome.

Results: 5 units collected data on 228 patients. The incidence of malignancy was 4.4%.

	Malignancy	No malignancy	
Abnormal examination	9	49	PPV 15.5%
Normal examination	1	169	NPV 99.4%
Abnormal MMG (M3,4,5)	8	7	PPV 53.3%
Normal MMG (M1,2)	2	111	NPV 98.2%
Abnormal USS (U3,4,5)	8	15	PPV 65.2%
Normal USS (U1,2)	1	147	NPV 99.3%
Bloody discharge	4	78	PPV 4.9%
Non-bloody discharge	6	81	NPV 93.1%
Uniductal discharge	6	141	PPV 4.1%
Multiductal discharge	0	33	NPV 100%
Presence RBC	2	31	PPV 6.1%
Absence RBC	4	127	NPV 96.9%
Presence Epithelial cells	3	25	PPV 10.7%
Absence Epithelial cells	3	100	NPV 97.1%

Conclusion: High numbers of women are investigated for nipple discharge, involving multiple clinic visits, with huge resource implications. A larger study is needed to evaluate the role of investigations in nipple discharge, as some may be unnecessary, and to produce guidelines on its management.

P072. SYNCHRONOUS CANCERS FOLLOWING MRI IN NEOADJUVANT CHEMOTHERAPY

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Introduction: All patients undergoing neoadjuvant chemotherapy have an MRI scan to assess the extent of the disease. It is known that preoperative MRI leads to further investigations and identifies additional cancers. We wanted to assess the impact of pre-operative MRI in patients undergoing neoadjuvant chemotherapy.

Methods: Retrospective audit of patients who underwent neoadjuvant chemotherapy from January 2015 to December 2017. Patients with previous breast cancer, bilateral malignancy, < 40 years of age or lobular carcinoma were excluded. Data on tumour biology, further imaging and biopsies was collected and analysed.

Results: Of the 102 patients identified, 83 had symptomatic presentation with a median age 56 (range: 40-77) years. 54% were triple negative breast cancer, 22% ER negative HER 2 Positive, 21% ER negative HER -2 positive and 3% were ER positive HER 2 negative.

Out of the 42% who required further imaging; more than 60% had scans for ipsilateral breast and 25% for the contralateral breast. Twenty one percent of patients required a needle core biopsy following a repeat scan (9% ipsilateral breast, 8% contralateral breast and 4% axillae). Out of the total of 102 patients, a synchronous malignant focus was found in 6% cases and a contralateral B3 lesion was seen in 5% of patients.

Conclusion: A significant proportion of patients required further imaging following pre-NACT MRI. MRI picks up synchronous cancers and impacts on post NACT management.

P073. PATIENTS RECEIVING NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER DO NOT REQUIRE ROUTINE STAGING INVESTIGATIONS

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Introduction: North East Cancer Network guidelines recommend pre-operative staging for ≥T3 disease (clinically or on imaging), if ≥4 proven malignant axillary nodes or symptoms of distant disease. However there has been a tendency to stage all patients receiving neoadjuvant chemotherapy (NACT). We assessed the validity of this.

Methods: Single centre retrospective review of cases receiving NACT from 2016-17. Indication and respective tumour biology was recorded. Computed Tomography (CT) of chest, abdomen and pelvis was used for staging.

Results: 58 patients underwent NACT, 51 of whom had staging investigations. Of the 7 patients not staged only one met the criteria.

Indication	Number staged	Met criteria (%)	Normal staging (%)	Indeterminate (%)	Metastatic (%)
Inflammatory Ca(13)	13	13 (100)	4	6	3
Triple negative(11)	9	5 (56)	6	2	1
For dual anti Her2(28)	23	18 (78)	12	7	4
ER+, Her2- downstage(6)	6	6 (100)	4	1	1
Total	51	42 (82)	26 (51)	16 (31.4)	9 (17.6)

26 CTs were normal (51%). 18 were indeterminate, 12 of whom required follow up imaging, 2 of which were confirmed to have metastatic disease. 7 patients had metastatic disease on initial CT.

Overall 9 patients had metastatic disease (17.6%), 8 of whom met our staging criteria. In total, 93 staging CT scans were performed.

Conclusion: 88% of patients with metastatic disease met the staging criteria. These results show that patients receiving NACT for breast cancer

do not require routine staging investigations. A selective policy should be adopted, particularly for triple negative and for dual anti-HER2 therapy.

P074. SPECTRUM OF PAEDIATRIC BREAST HEALTH ISSUES: A BEGINNER'S APPRAISAL

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Introduction: Paediatric breast health issues, though not a rare entity, have been overlooked. The scarcity of published literature remains a major obstacle.
Aims: The study aims to analyse the spectrum of paediatric breast health issues and put forward a disease classification system based on which larger studies can be conducted.
Methodology: This study is a retrospective one data retrieved from a paediatric clinic in collaboration with a comprehensive breast service between May 2018 and October 2018. The spectrum of disease were noted. The age distribution was classified into Group A (neonate to 6 years), Group B (6yrs to 12 yrs) and Group C (12 to 18 yrs). The evaluation and treatment offered were noted. The data was analysed. As the study involves a simple data evaluation, no comparison statistics are feasible.
Result: 54 patients with breast health issues were included. In Group A, 3 neonates presented with milk secretion and 1 with secondary infection. In group B, 2 patients presented with developmental anomalies (premature/asymmetric thalarche), 1 each respectively with periareolar infection, vascular malformation and gynaecomastia. The case distribution in Group C included mastalgia (n=24), breast infection (n=2), hypertrophy-asymmetry- amazia (n=5), fibroadenoma (n=12) and gynaecomastia (n=2).
Discussion: The study shows mastalgia (44%) and lumps (22%) to be the commonest followed by developmental anomalies (14%). Poor community physician awareness about paediatric breast health issues lead to unnecessary referrals. Based on the initial observations we propose a classification for paediatric breast health issues upon which a guideline can be set.

P075. ASSESSING THE VALUE OF PREOPERATIVE MRI IN GUIDING DIAGNOSTIC AND SURGICAL MANAGEMENT OF BREAST CANCER PATIENTS

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Introduction: Our study assesses the value of preoperative MRI in characterising the extent of breast cancer, identifies risk factors associated with additional MRI lesions not visualised on prior imaging, and evaluates the impact on surgical management.
Methods: A retrospective chart review was conducted on 199 patients with biopsy-proven breast cancer who underwent preoperative MRI between January 2014 and February 2018. We evaluated the accuracy of MRI at predicting the extent of disease, the frequency of additional lesions detected on MRI, and the changes in surgical management. Statistical analysis of associated risk factors was performed with the Chi-Square test and Fisher's exact test, with a P-value <0.05 considered statistically significant.
Results: MRI was 98% sensitive in detecting breast cancer and predicted tumor size within 10 mm of pathological tumor size in 155 (78%) patients. 72 (36%) MRIs detected additional lesions, which led to additional biopsy-proven sites of cancer in 37 (19%) patients. Surgical management was altered in 33 (17%) patients from either a lumpectomy to mastectomy, or mastectomy to bilateral mastectomy. Younger age (<50 years) was associated with increased frequency of additional lesions detected on MRI ($P = 0.004$). Risk factors such as race, breast density, histopathology, hormone receptor status, and BRCA positivity did not have a significant association with additional lesions detected on MRI.
Conclusion: Preoperative MRI is a useful adjunct to conventional breast imaging in characterising the extent of breast cancer and detecting additional lesions, particularly in younger patients, resulting in clinically relevant changes in surgical management.

P076. AFTER THE NEOSPHERE TRIAL: THE REALITIES OF PLANNING TREATMENT. AN AUDIT OF HER2 STATUS AVAILABILITY FOR THE INITIAL DIAGNOSTIC MULTI-DISCIPLINARY MEETINGS IN PATIENTS WITH NEWLY DIAGNOSED INVASIVE BREAST CANCERS

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Following the Neosphere trial, women with HER2 positive invasive tumours ≥20mm are being offered neo-adjuvant chemotherapy with dual anti-HER treatment. HER2 status is crucial in determining sequence and extent of therapy. New NICE guidelines recommend HER2 receptor status is available at initial diagnostic multidisciplinary meetings, to avoid delays in treatment. The availability of HER2 status at first MDT was audited to assess if this occurs in practice.
Locally approved retrospective audit of electronic records from new symptomatic or screen detected invasive breast cancers, diagnosed between January and July 2018 at one District Hospital. HER2 testing completed at a neighbouring tertiary centre.
93 patients were diagnosed with invasive breast cancer in 7 months, 29 were referred from screening. 41 had radiological lesions ≥20mm (44%). The average time from biopsy to HER2 availability was 10.9 days (range 6-22). This increased for patients requiring FISH (n=16) to 18.1 days (range 6-24). There were 11 HER2 positive cases, 5 with tumours ≥20mm, none had HER2 status available for initial MDT. Subsequently one patient proceeded to primary surgery, three patients switched to NACT two days before scheduled surgery, one was palliative.
Almost half (44%) of patients were potentially suitable for dual neo-adjuvant therapy at initial diagnosis. Subsequent delay in HER2 status means a period of significant uncertainty for patients, and increased workloads for clinicians, due to efforts to chase results in a timely manner, prolonged MDT discussions of potential treatment pathways and repeated follow up appointments. More work is required to examine optimisation of HER2 status availability.

P077. PATIENT SATISFACTION WITH A NEW VACUUM ASSISTED BIOPSY (VAB) SERVICE IN A DISTRICT GENERAL HOSPITAL

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Introduction: Our hospital was one of the last in the West Midlands to introduce VAB into our breast service (in February 2018). We wanted to get up to speed rapidly and felt that a patient satisfaction survey would help.
Methods: We prospectively sent anonymised questionnaires to the first 40 patients over 6 months. They were sent in 2 batches, to the first 10 and then, after minor adjustments in practice (particularly adding adrenaline to local anaesthetic solution), to the following 30 patients. 22 responses have been obtained so far (55% response rate) - 80% from the first cohort and 46% from the 2nd.
Results: Patients felt that written information received prior to VAB, verbal explanation on the day and aftercare advice were satisfactory to excellent in 88%, initially rising to 100% in the second cohort. Asked if they had adequate detail on how results would be given, all who responded were satisfied/very satisfied. All patients felt well supported during the procedure.
On a clinical front, pain scores (rated 1-10; no pain to severe pain) were stable with a mean of 5 in all patients. 88% felt bruised in the first group and only 43% later. Overall 38% rated the experience good and 38% excellent in the first cohort. This increased to 54% and 46% respectively in the second group.
Conclusion: An experienced radiology team can get up to speed quickly with VAB. Nursing support is essential and valued by the patients. Use of adrenaline in local anaesthetic reduces bruising significantly.

P078. ONE THIRD OF ALL REFERRALS TO FIND 1% WITH CANCER: A CROSS-SECTIONAL STUDY OF CLINICAL PRESENTATION IN WOMEN UNDER 40 REFERRED TO A UK BREAST CLINIC

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Aim: Breast cancer is uncommon in women under 40.[1]
We aimed to evaluate referrals to the breast clinic; investigations; and subsequent diagnoses, in order to allocate clinic resources appropriately for this group.
Method: Female patients referred to an NHS breast clinic (300,000 population) reviewed over six months (1st July to 31st December 2017) Of 1311 referrals, 444 (34%) were under 40. 41 excluded (21 DNA; 3 redirected; 17 incomplete): study population 403.
Results: 172 (43%) women were referred urgently (Scottish '2 week wait'); 18 (4%) 'soon'; 213 (53%) routinely. Median age 32 (range 14-39). Women referred urgently were significantly older than those referred routinely (median age 33 vs 30: Mann Whitney P<0.0002). 22 (5%) were pregnant or within one year following pregnancy 289 (72%) had normal findings clinically or on imaging. 110 (27%) were given a benign diagnosis. There was no re-presentation with malignancy from the study population in the 11-16 months elapsed since. 248 (61%) had breast ultrasound; 61 (15%) had core biopsy. Only 24 (6%) had mammography, in line with local policy to avoid without specific indication. Four malignancies (<1%) were found: 2 invasive ductal cancer (ages 28 and 32); 1 DCIS (38); and 1 malignant Phyllodes (39).
Conclusion: Women under 40 comprised one third of referrals, though the vast majority (99%) received a normal or benign diagnosis. No 'missed' cancers have been identified to date. This may be of use in allocating clinic resources, and should be reassuring to those awaiting assessment.
1. Cancer Research UK, 2013-2015.

P079. VARIATION IN THE WORK UP AND MANAGEMENT OF PATIENTS WITH GYNAECOMASTIA

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Introduction: Gynaecomastia is a common cause for male patients attending breast services. At present, there are no national guidelines on how to investigate or manage gynaecomastia, and therefore a diverse range of approaches exist. We assessed how patients with gynaecomastia are investigated and managed within our unit.
Methods: After Trust approval (ID 312), we identified 100 patients with gynaecomastia who attended the "one-stop" clinic from November 2017 to October 2018. We reviewed the way in which each of the 7 physicians (5 Breast Surgeon Consultants, 1 GP, 1 Specialist Nurse) investigated and managed gynaecomastia by reviewing pathology, imaging, and clinical documentation.
Results: Investigations for all patients included a clinical history, breast examination and imaging. However, there was a variation in whether alcohol history (60%) and testicular symptoms and/or examination (58%) were performed. Patients who had blood tests (56%) either in clinic or by the GP, included testosterone, oestradiol and beta-HCG levels. However, there was a variation in other blood tests being requested including prolactin, LFTs, TFTs, LH/FSH and SHBG. The majority of patients were managed conservatively (90%). Interestingly, 2 patients were referred to oncology (1=new testicular cancer diagnosis and 1=suspected recurrent testicular cancer).
Conclusions: This study identified substantial variation in the work up and management of gynaecomastia. A *'male breast proforma'* as an aide memoire regarding the tests that should be requested (e.g. bloods, testicular US, etc), how to manage abnormal results and when to refer to endocrinology, may help standardise management.

P080. THE EFFICACY OF SYSTEMIC STAGING FOR DETECTION OF DISTANT METASTASES IN NEWLY DIAGNOSED BREAST CANCER AND ITS IMPACT ON PATIENT MANAGEMENT: TWO BREAST UNITS REVIEW ON PRACTICE

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Introduction: Systemic staging for metastatic disease in newly diagnosed breast cancer is controversial; the detection yields is variable according to cancer stage and there is no consensus on which and how (CT +/- bone scan) patients should be staged. In two breast units in the West of Scotland, we routinely use CT (thorax, abdomen, pelvis) and isotope bone scan to stage women with 'high risk' cancers.
This study aims to review the diagnostic benefit of systemic staging and how it impacts patient management.
Methods: All patients with newly diagnosed breast cancer, in 2017, were identified from two West of Scotland breast surgery units database. Those who had pre-treatment systemic staging (CT and bone scan) were included in a separate database; indications and outcomes of their staging scans were recorded and evaluated. The management outcome of those with detected metastatic disease was reviewed.
Results: 667 patients, age 30-88, had newly diagnosed breast cancer in 2017. 149 patients underwent systemic CT staging and 122 had bone scan. CT detected distant metastases were found in 28 patients. 36 patients had 'hot spots' on their staging bone scans but only 8 were confirmed bony metastases, which all correlated to positive CT findings. All 28 patients received palliative hormonal/ radio- and chemotherapy.
Conclusion: Systemic staging revealed relatively low rate of occult metastatic disease. The CT detection of distance metastases guide palliative management. Our units will omit bone scan in the future, since it is of limited additional value to CT staging for bony metastases.

P081. A TRUST-WIDE BREAST ABSCESS MANAGEMENT AND REFERRAL PATHWAY

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Introduction: NICE guidelines advise that patients presenting with breast abscesses are managed by ultrasound assessment followed by ultrasound guided-aspiration or incision and drainage. At Maidstone and Tunbridge Wells (MTW) NHS Trust, ultrasound for breast abscesses is only routinely performed by breast radiologists during one-stop breast clinics (OSBC). We sought to develop a referral pathway (RP) for patients who present to their GP or A&E to enable timely assessment and a standard operating procedure (SOP) for the emergency general surgical (GS) team.
Methods: The RP, SOP and patient information leaflets (PIL) were developed after consultation with the emergency GS, breast and microbiology services within the MTW Trust. Ratification was through presentation at Breast and GS Clinical Governance meetings.
Results: GPs, A&E clinicians and on-call general surgeons can make a referral to OSBC via direct access telephone numbers (Monday-Friday) or an out-of-hours e-mail referral system. Patients are provided with PIL and booked into the next available OSBC slot within 48 hours of their initial assessment. Systemically unwell patients or those requiring immediate incision and drainage (i.e. threatened necrotic skin, partial rupture or spreading cellulitis) are admitted under the acute GS team, with SOP made available to guide their management.
Conclusion: We report the development of a breast abscess RP and SOP that is currently operational at MTW. Further work will be required to assess ongoing feasibility of this system, at which point it could be used as a model for other Trusts seeking to set up a similar service.

P082. ESTABLISHING SPECIALIST BREAST CARE IN MALAWI: TOWARDS A NATIONAL BREAST SERVICE

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Introduction: Malawi is one of the world's poorest nations, with limited healthcare resources for a population of 18 million. Non-communicable diseases including breast cancer are increasing. Globocan estimates 762 new cases of breast cancer in Malawi annually. Most don't receive specialist care. To address this, the Malawi Breast Group, a multidisciplinary team of government-sector clinicians involved in providing breast care was formed in March 2018.
In February 2017 a triple assessment clinic, based as closely as resources allow to ABS guidelines, was established in the Southern Region of Malawi. A clinic serving the Central Region began in December 2017. These two central hospital facilities offer breast services for the majority of the country's population.
Methods: The models for the clinics are different according to local resources and needs. Each has surgery, pathology, imaging and oncology, but radiotherapy is not yet available in Malawi. Multidisciplinary team meetings discuss all cases weekly. Patient records are beginning to be collated into an electronic audit system. The service is being developed with the Ministry of Health, to establish nationwide policy, standards and audit.
Results: To date, in the Southern Region 323 patients have been assessed, of whom 63 had confirmed breast cancer, 4 were male. The median age was 48. The majority present at an advanced stage.
Conclusions: A national breast service is being successfully established in Malawi offering prompt diagnosis and treatment. Cancers are predominantly late stage, underlining the importance of raising community and clinician awareness and coherent service development.

P083. SHARED DECISION-MAKING AND DIGITAL ACCESSIBILITY OF PATIENTS UNDERGOING BREAST SURGERY

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Introduction: The Royal College of Surgeons and the Kings Fund guidelines emphasise the importance of shared decision-making (SDM) and informed consent (IC). SDM and IC are longitudinal and can be aided by procedure-specific information with time to consider options. Electronic solutions could aid this process, but concerns persist about the uptake of technology and access to the internet among our patients.
Method: A prospective audit (approval number: SPS 009) was conducted over 4 months (December 2017 – March 2018) in a London teaching-hospital. Data was collected from 128 patients who underwent a breast surgical operation during these dates. Questions pertaining to evaluation of SDM and IC were collected including: "Were you given a patient information leaflet/decision aid?" The following data was also collected "I have access to a mobile device with internet" and "At home, I have access to (please tick all that apply): Email/Computer/Tablet/IPad/Internet/None of the above".
Results: 27% (n=35/128) were not given a patient information leaflet/decision aid; 86% (n=108/126) had access to a mobile device with internet; 6% (n=8/128) did not have home access to any of: Computer/Tablet/Ipad/Internet/Email. 5% (n=6/128) said they had no digital device or internet access
Conclusions: In this cohort, 95% of patients had access to a digital device either mobile or at home. For the large majority of patients, electronic solutions could be useful and accessible. However alternative options would need to exist to reach the few patients who do not have digital access.

P084. CORRELATION BETWEEN SURGEON (INTRA-OPERATIVE) AND PATHOLOGIST (POST-OPERATIVE) TISSUE ORIENTATION IN BREAST CONSERVING SURGERY

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Introduction: Breast lumpectomy specimens are routinely orientated intra-operatively using marking stitches, to aid the pathologists in determining specimen orientation post-operatively. Re-excision is recommended for involved margins, therefore correlation in specimen orientation is crucial. We conducted a feasibility study to assess the pathological accuracy of intra-operative stitch orientation.
Methods: After Trust approval (service evaluation ID=267), prospective data was collected from patients undergoing wide local excision for breast cancer. Lumpectomy specimen dimensions (mm) and weight (g) were recorded intra-operatively (by the surgeon) and post operatively (by the pathologists). Intra-operatively, the surgeon placed a random undyed stitch in the lumpectomy specimen and its margin plane orientation (anterior, posterior, inferior, superior, medial, lateral) and clock face orientation was compared to post-operative, pathology orientation.
Results: All specimens (n=16) were orientated intra-operatively with long lateral/short superior marking stitches, n=5 also had an anterior loop stitch sited. An additional undyed stitch was placed into all specimens. Comparing pathologist and surgeon orientation, we found 25% (4/12) discordance in the additional stitch using margin plane orientation and 87.5% discordance using the clock face method. Mean pathology tissue measurements of width, length and weight was underestimated in comparison with intra-operative surgeon measurements by 5%, 17% and 6%, respectively, whilst mean height was overestimated by 29%.
Conclusions: Intra-operative specimen marking using stitches and tissue measurements showed discordance with post-operative pathology reporting. Other published studies have reported similar discordance. As focal re-excision is recommended for positive margins, techniques should be sought to optimise specimen orientation (e.g. intra-operative specimen inking).

P085. THE USE OF THE KLINITRAY: IS IT COST-EFFECTIVE?

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Introduction: Breast conserving surgery is advocated where possible. However, the risk of further surgery to excise margins that are either too close or involved, is always present. Rates of re-excision vary from unit to unit, and are often multifactorial. The use of definitive ways to orientate the specimen, such as the use of Klinitrays, has been advocated as a method of reducing the re-excision rates.
Methods: All breast conserving surgery between the period of November 2017 to November 2018 from one District General Hospital were analysed. Data on procedure, re-excision and the use of the Klinitray were collected. The re-excision rate was calculated and compared to previous rates from April 2015 to April 2016, when Klinitrays were not in use.
Results: A total of 278 breast conserving procedures were performed by five surgeons over a 12 month period. 21 procedures were excluded as the specimens were not orientated on a Klinitray. There were 61 re-excisions needed after the initial procedures (re-excision rate of 23.7%). This compares to a re-excision rate of 21.8% in 2015-2016.
Conclusions: Earlier reports analysing the use of the Klinitray had shown some promising results with respect to the reduction of re-excision rates. However, our figures show that, in this unit, the use of the Klinitray slightly increased the re-excision rates. Therefore, more studies are needed to corroborate this in order to assess the cost effectiveness of investing in this piece of equipment, as its use is at least ten times the cost of conventional suture methods.

P086. PATHOLOGICAL RESPONSE IN THE BREAST FOLLOWING DUAL ANTI-HER2 NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER

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Background: HER-2 positive breast cancer is increasingly managed with neoadjuvant chemotherapy (NAC), combined with either single or dual anti-HER2 therapy (Trastuzumab±Pertuzumab). Evidence suggests that dual therapy improves the pathological complete response (pCR) rate. This study evaluates the 'real world' impact of dual therapy in clinical practice.
Methods: Retrospective data analysis from a large screening institution of all patients undergoing NAC with single or dual anti-HER2 from May 2014-November 2017. Pathological response was assessed according to percentage of residual tumour.
Results: Of the sixty-four patients undergoing NAC with anti-HER2 therapy, pCR was achieved in 50% of patients. A higher number of patients achieved pCR in the dual group (single vs. dual,p=0.31), particularly the ER-/HER2+ group (50% vs. 80%). Downstaging of the tumour to facilitate BCS was attempted in 51 patients, and achieved in 38 (75%), with 18 (86%) dual anti-HER2 patients achieving BCS (single vs. dual,p=0.56).

Pathological Response Breast to Anti HER-2 Treatment, n(%)

	pCR	pPR: Percentage Residual Tumour		
		<10%	10-50%	>50%
Single Anti HER-2	**15 (40.5)**	**13 (35.1)**	**8 (21.6)**	**1 (2.7)**
ER-/HER2+	8 (50.0)	6 (37.5)	2 (12.5)	0 (0.0)
ER+/HER2+	7 (33.3)	7 (33.3)	6 (28.6)	1 (4.8)
Dual Anti HER-2	**17 (63.0)**	**8 (29.6)**	**2 (7.4)**	**0 (0.0)**
ER-/HER2+	4 (80.0)	1 (20.0)	0 (0.0)	0 (0.0)
ER+/HER2+	13 (59.1)	7 (31.8)	2 (9.1)	0 (0.0)
Total	**32 (50.0)**	**21 (32.8)**	**10 (15.6)**	**1 (1.6)**

Conclusion: pCR and successful BCS was higher in the dual anti-HER2 group; whilst not statistically significant, it represents a clinically significant response.

P087. RESPONSE TO NEOADJUVANT CHEMOTHERAPY IN NODE-POSITIVE NON-INFLAMMATORY BREAST CANCER

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Background: Neo-adjuvant chemotherapy (NAC) has been increasingly used in recent years to downstage the breast cancer and nodal metastases, in order to facilitate breast conserving surgery(BCS) and avoid axillary lymph node dissection(ALND). Varying rates of response to NAC in the breast and axilla have been reported in the literature. We report response rates to NAC in a single Irish tertiary referral centre.
Methods: A retrospective review of patients with non-metastatic, node-positive breast cancer treated with NAC. Women with inflammatory breast cancer and bilateral disease were excluded. Clinical and pathological features were analysed, along with response to treatment.
Results: The cohort comprised 105 women with a mean age of 48.8(25 − 78). 72(68.6%) underwent mastectomy and 32(30.5%) had BCS. Sentinel lymph node biopsy was performed in 11(10.5%), axillary sampling in 13(12.4%) and ALND in 81(77.1%). The majority of women had ER+/HER2- disease (41%). ER+/HER2+ disease was diagnosed in 23(21.9%), ER-/HER2+ in 19(18.1%) and triple negative breast cancer (TNBC) in 20(19%). Complete pathological response in the breast was seen in 19 patients (18.1%), and in the lymph nodes in 58(55.2%). The nodal response rate was 25.6% in those with ER+/HER2- disease, 65.2% for ER+/HER2+ disease, 52.6% for ER-/HER2+ disease and 55% for TNBC.
Conclusions: This data shows that NAC downstages the axilla of over half of patients presenting with node-positive, non-inflammatory, non-metastatic breast cancer. Nodal response rates are dependent on tumour subtype, and therefore patient selection is crucial.

P088. BREAST CANCER PATIENTS WITH NO SURGERY IN THE BREAST AFTER AN EXCEPTIONAL RESPONSE TO NEOADJUVANT CHEMOTHERAPY: A CASE SERIES

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Introduction: Neoadjuvant chemotherapy (NACT) is increasingly used in phenotype-appropriate, early stage breast cancer with reported pathologic complete response (pCR) rates exceeding 60%. The utility of surgery after pCR is unknown, but is increasingly being questioned. We review the oncological outcomes of a small group of women who declined surgery after NACT.
Methods: Single-institution, retrospective case-series of breast cancer patients who declined surgery after NACT. They all achieved an excellent imaging response and had no residual disease (invasive or DCIS) on post-NACT, vacuum-assisted biopsy (VAB) of the breast. Sentinel lymph node biopsy/targeted axillary dissection was selectively performed.
The primary outcome measure was locoregional recurrence on clinical and/or radiological assessment. Descriptive statistics were used.
Results: Between 01/2015 and 06/2018, eight women declined surgery after NACT. The median age was 48 years (27-63) and median tumour size 52mm (12-80). Five were HER-2 positive and three were triple negative.
All cases had pCR on breast VAB. Six (75%) had positive axillary nodes prior to NACT; 3 (50%) achieved axillary pCR, confirmed on SLNB/TAD. All received standard chemotherapy, with transtuzamab+pertuzumab if HER-2 positive. Seven women (87.5%) received radiotherapy to the breast, of whom two received additional regional nodal irradiation. Prescription dose was 50Gy in 25 fractions with boost.
There were no locoregional recurrences at median follow up of 32.5 months (12-42).
Conclusion: This case series must be interpreted with caution but is hypothesis-generating, signposting the need for research into the role and utility of surgery in exceptional NACT responders.

P089. NEOADJUVANT PERTUZUMAB IN THE TREATMENT OF HER2+VE BREAST CANCER: INCREASED PATHOLOGICAL COMPLETE RESPONSE, BUT AT A COST?

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Introduction: NICE guidelines support the use of neoadjuvant pertuzamab in addition to current neoadjuvant chemotherapeutic regimens as an option in the treatment of HER2+ve breast cancer. The Neosphere and Tryphaena studies demonstrated that the addition of pertuzamab increased rates of pathological complete response (PathCR) without increased rates of adverse events. The aim of this study was to see how the addition of pertuzamab affected rates of PathCR and adverse events in our population.
Methods: We looked at all patients receiving neoadjuvant chemotherapy between October 2014 and January 2018. Patients with HER2+ve breast cancer were divided into two groups according to chemotherapeutic regimen: 1. FEC-T (5 fluorouracil, epirubicin, cyclophosphamide, docetaxel/abraxane) + trastuzumab (herceptin). 2. FEC-T+ trastuzumab and pertuzumab. We compared rates of PathCR, chemotherapy related admissions, chemotherapy cessation, neutropenic sepsis, neutropenia, anaemia, thrombocytopaenia, gastrointestinal disturbance, symptomatic left ventricular systolic dysfunction and death.
Results: During the study period a total of 106 patients underwent neoadjuvant chemotherapy, of which there were 40 HER2+ve patients. There were 26 patients in group 1 and 14 patients in group 2 (pertuzumab). PathCR was observed in 46% of patients with trastuzumab (Group 1) and 86% with trastuzumab and pertuzumab (Group 2). This was statistically significant (p=0.02) with no significant differences in the rate of any adverse events between the two groups.

Conclusion: In our population, the addition of pertuzamab in patients receiving neoadjuvant chemotherapy for HER2+ve breast cancer increases the rates of PathCR significantly without an increase in adverse events.

P090. HOW ACCURATE IS ULTRASOUND SCAN IN PREDICTING THE SIZE OF RESIDUAL BREAST CANCER FOLLOWING NEOADJUVANT CHEMOTHERAPY?

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Introduction: MRI is considered the imaging of choice to monitor response to neoadjuvant chemotherapy (NAC). However, MRI is costly and hence many hospitals use ultrasound scan (USS) instead. The aim of this study was to assess the accuracy of USS in predicting residual disease burden in our cohort of patients.
Methods: We studied 96 consecutive NAC patients. We then selected patients with unifocal disease. The largest diameter of residual breast disease reported on USS after NAC and the largest diameter reported on histology report on the excision specimen was noted. We divided patients into 4 groups of accuracy: 'exact size' prediction, within ± 1cm, USS underestimating >1cm and USS overestimating >1cm. We also analysed if accuracy of USS correlated with number of days between scan and operation.
Results: We had 43 patients with unifocal disease. USS correctly predicted complete response in 3/7 (43%) patients. USS predicted 'exact size' of residual disease in 9% patients (n=4), within ± 1cm in 33% (n=14), underestimated>1cm in 33% (n=14) and overestimated > 1cm in 25% (n=11) patients. USS therefore accurately estimated the size of residual breast disease within a centimetre in 42% (18/43) patients. The number of days between USS scan and operation had minimal bearing on accuracy.
Conclusion: USS will be accurate in predicting residual disease burden within a centimetre in only 2 out of 5 patients while underestimating the residual size by >1cm in nearly 1 in 3 patients. This should be kept in mind when planning surgery and counselling patients for surgery.

P091. ONCOTYPE DX, PREDICT, AND THE NOTTINGHAM PROGNOSTIC INDEX (NPI) – A STUDY IN DECISION MAKING

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Introduction: The Recurrence Score (RS) generated by Oncotype DX (ODX) gene profiling predicts the 10-year disease recurrence risk for a patient with breast cancer and estimates their benefit from adjuvant chemotherapy. This study aimed to evaluate use of ODX testing in our institution and assess its impact on chemotherapy decisions.
Methods: This retrospective study included all ER-positive, HER2-negative, node-negative breast cancer patients treated over 12-months (2017–2018). Data collected included patient demographics, tumour pathology, NPI/Predict scores, RS and chemotherapy decisions. Data for patients selected for ODX testing were compared with patients not ODX tested using T-tests or Mann-Whitney. Spearman R's were generated for Predict/NPI correlations. Kruskal-Wallis and Chi-squared tests assessed ODX and chemotherapy decisions.
Results: Of 133 eligible early breast cancer patients, 46 were selected for ODX testing. These patients were younger (P<0.0001), symptomatic (P=0.0033), with larger (P<0.0001), higher grade (P<0.0001) tumours, compared to the non-ODX tested group. Patients with higher Predict/NPI scores were significantly more likely to undergo ODX testing (P<0.0001). A significant proportion of patients with lower NPI/Predict scores were offered chemotherapy based on their RS score (P<0.05). All patients with high RS were offered chemotherapy irrespective of NPI/Predict score. Predict strongly correlated with NPI (R, 0.91; P<0.0001) but showed lower correlation with ODX (R,0.33; P=0.0249).
Conclusion: NPI/Predict scores may underestimate risk compared to ODX. Patients are more likely to receive chemotherapy if ODX tested first. Therefore, we showed ODX testing changed chemotherapy decisions compared to using NPI or Predict alone.

P092. EFFECT OF EXERCISE IN BREAST CANCER PATIENTS TAKING AROMATASE INHIBITORS

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Introduction: The most common breast cancers in postmenopausal women are hormone receptor-positive tumours, and hence, the majority of these women will be expected to take Aromatase Inhibitors (AIs) as part of their management. Up to 50% of post-menopausal breast cancer survivors taking AIs experience AI-associated arthralgias, or joint pain. This is a common side-effect leading to many patients stopping their AIs. This is the most common reason for the poor adherence to AIs. Physical exercise has been reported to improve tolerance to AIs, and therefore the authors conducted a systematic review of the medical literature to investigate the effectiveness of this treatment.
Methods: Using the PRISMA guidelines, a systematic review of the medical literature using MEDLINE, EMBASE and the Cochrane databases. Outcome measures in the search included the Brief Pain Inventory (BPI), DASH questionnaire, WOMAC index, as well as assessment of cardiorespiratory fitness, measured maximal oxygen consumption (VO2max). Predictors of adherence using linear regression were also assessed.
Results: The results of the randomised clinical trials have shown significant reduction in BPI, DASH and WOMAC pain scores, as well as overall higher aerobic exercise levels. A dose-response relationship was seen, thereby rewarding those women who exercised more with reduced joint pain.
Conclusion: The results of the clinical trials have shown a positive correlation between regular exercise and reduction of AI induced arthralgias. They showed an improved physical and mental outcome, while also showing improved compliance to Aromatase Inhibitors. The relationship between differing types of physical exercise (aerobic vs anaerobic), warrants further research.

P093. OUTCOMES FOLLOWING NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER

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Introduction: Chemotherapy in the neoadjuvant setting (NAC) prior to definitive surgery is well established, and can serve a number of valuable purposes, from downstaging the tumour to facilitating dual-anti HER2 treatment. This study aims to evaluate downstaging of the breast disease in a large dual-centre series.
Methods: Retrospective data collection from two breast screening institutions of all patients undergoing neoadjuvant chemotherapy from May 2014 to November 2017.
Results: A total of 174 patients underwent neoadjuvant chemotherapy over the study period. Table 1 shows pathological response rates categorised by receptor status. 91 patients (52%) underwent NAC with the intention of downstaging the tumour to permit breast conserving surgery (BCS); this was successful in 67 (74%) patients.

Table 1
Pathological Response Breast, n(%)

Hormonal Receptor Status	pCR	pPR	No Response	Progression	*Total*
ER-,HER2-	15 (31.9)	28 (59.6)	4 (8.5)	0 (0.0)	47 (27.0)
ER-,HER2+	21 (52.5)	16 (40.0)	0 (0.0)	3 (7.5)	40 (23.0)
ER+, HER2-	3 (10.3)	21 (72.4)	4 (13.8)	1 (3.4)	29 (16.7)
ER+,HER2+	22 (37.9)	33 (56.9)	2 (3.4)	1 (1.7)	58 (33.3)
Total	61 (35.1)	98 (56.3)	10 (5.7)	5 (2.9)	174

pCR (pathological complete response)
pPR (pathological partial response)

Conclusion: Pathological response rates in this study are relatively consistent with those published in recent major trials. A high rate of successful downstaging from mastectomy to BCS. Groups which see less benefit are those with receptor status ER+ and HER2-; however with OncotypeDX now available, this test may assist in patient selection in this molecular subgroup.

P094. RETROSPECTIVE REVIEW OF INTERMEDIATE ONCOTYPE-DX RECURRENCE SCORES USED TO INFLUENCE ADJUVANT CHEMOTHERAPY IN A LARGE BREAST UNIT

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Introduction: Patient selection for adjuvant chemotherapy (AC) to maximise benefits and minimise unnecessary risk is paramount. The Oncotype-DX, 21-gene assay recurrence-score (RS), is used in our unit to help stratify risk. Publication of the TAILORx trial provided clarity in the benefits of AC in patients with intermediate RS (11-25). This project reviewed our use of AC in intermediate RS patients prior to TAILORx.
Methods: A retrospective review of patients diagnosed with ER-positive, HER2-negative, node-negative primary breast cancer between February 2016 and February 2018 with Oncotype-DX RS between 18-30 (meeting inclusion criteria for TAILORx) was undertaken. The use of AC in this group was analysed with reference to TAILORx study outcomes.
Results: 81 patients with an intermediate RS (18-30) were identified, age range 34-77 years. 73% (59 patients) had RS of 18-25 and 27% (22 patients) RS of >25. 82% (18/22) patients with RS indicating a significant benefit from chemotherapy following the TAILORx study (RS >25) received chemotherapy. Of the 59 patients with a RS 18-25, 70% (41 patients) were aged >50 and, of these, 37% (15 patients) received chemotherapy, patients who in light of TAILORx could now consider omitting chemotherapy. 30% (18 patients) were ≤50 years; 44% (8 patients) received chemotherapy (TAILORx outcome suggests likely benefit).
Conclusion: Since TAILORx provided clarity in benefits of AC in intermediate RS, our unit can expect to avoid chemotherapy in around 8 patients per year. Furthermore, we can identify a group of younger patients with intermediate RS where AC can provide benefit.

P095. THE RELATIONSHIP BETWEEN CARDIAC DOSIMETRY AND TUMOUR QUADRANT LOCATION IN LEFT SIDED WHOLE BREAST AND CHEST WALL ADJUVANT RADIOTHERAPY

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Background: Radiotherapy after breast surgery decreases locoregional recurrence and improves survival. This is not without risks from radiation exposure and could have implications in clinical practice. Our study investigates the correlation between tumour location and radiation dose to the heart.
Methods: Left-sided breast cancer patients who had radiotherapy at Aberdeen Royal Infirmary in 2010 were identified. Tumour location was established from notes and imaging. Radiotherapy planning scans were reviewed, and cardiac doses calculated. The mean cardiac dose, maximum dose and volume of the heart in the field, along with V5-V40, were determined.
Results: 40 patients had mastectomies and 118 breast conservation. The median percentage of the heart in the field and the Interquartile Range was 0.59% (0.03-1.74) for all patients, with the highest for lower inner quadrant (LIQ) tumours 1.20% (0.29-2.40), followed by mastectomy 0.94% (0.02-1.82). The mean heart dose showed a higher median for mastectomies 1.59 Gy (1.00-1.94), followed by LIQ tumours 1.58 Gy (1.31-2.28), with an overall median of 1.42 Gy (1.13-1.95). The median percentage of the heart in the field, the mean cardiac dose and V5-V30 did not reach statistical significance, however, V40 and the maximum dose did.
Conclusions: The benefits of radiotherapy after breast cancer surgery are established, but with potential harm from cardiac exposure. Our cohort showed higher radiation exposure to the heart in patients with LIQ tumours and mastectomies, but reached significance only for V40 and maximum dose. This highlights tumour location as a potentially important risk factor for cardiac exposure with breast radiotherapy.

P096. AN AUDIT OF THE ROLE OF PONDX IN CHEMOTHERAPY DECISION-MAKING IN THE BREAST MDT

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Background: The Oncotype Dx recurrence score (RS) was recommended by NICE in 2015 for routine use in clinical practice to aid decision making for adjuvant chemotherapy in patients with oestrogen receptor positive, HER2 negative, node negative breast cancer. We secured access to the test in patients with 1 – 3 positive nodes as part of a decision impact study (PONDx). This audit aims to review the impact of PONDx in a single large breast unit.
Method: Data was collected prospectively on all patients with breast cancer who were eligible for the PONDx test. Data was collected from July 2017 to August 2018. This data included age, tumour size, grade, menopausal status, number of involved lymph nodes and the RS. Estimation of chemotherapy benefit was calculated using PREDICT. Cut offs of 3% and 5% respectively were used to identify those patients traditionally having a discussion of, or recommendation for, first or second line chemotherapy.
Results: 36 patients were available for analysis. RS ranged from 1 – 28. Based on PREDICT 9 patients would have had chemotherapy discussed with them and a further 7 would have had chemotherapy recommended. In this series only 7 patients received chemotherapy (RS 15 – 22). The commonest regime was FEC-T. There were no high RS.
Conclusion: PONDx RS is a valuable addition to the MDT discussion. Chemotherapy can be avoided in patients with low and intermediate RS who would normally be recommended chemotherapy.

P097. THE IMPACT OF TAILORX STUDY ON THE RECOMMENDATION OF CHEMOTHERAPY - THE WARWICK EXPERIENCE

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Background: The Oncotype DX breast cancer assay provides a marker for risk of distant recurrence and patients in the intermediate risk group were often advised chemotherapy. The TAILORx study showed, in patients over 50 with a risk score of less than 25 and in patients younger than 50, with a risk score less than 20, that chemotherapy could be spared.
Aim: The aim of this study was to determine the utilisation of chemotherapy use based on the Oncotype DX risk score in the intermediate group and the projected reduction in chemotherapy utilisation after adoption of TAILORx recommendations.
Methodology: Consecutive patients with low clinical risk that had undergone Oncotype DX testing from February 2012 to May 2018 were reviewed. Baseline information including patient demographics, tumour characteristics and chemotherapy was recorded.
The data was then reviewed in light of the TAILORx study results to project the potential reduction in chemotherapy use.
Results: 143 patients were identified, with 83 being over 50. Of these, 41 patients had an intermediate recurrence score of 11-25 and 15 (37%) of these patients were advised chemotherapy and 11 received chemotherapy. 60 patients were under 50 years. Of these patients 26 patients had a recurrence score of 11-20 and of these 6 (23%) patients were advised and received chemotherapy.
Conclusion: By adopting the TAILORx recommendations there will be a reduction in patients offered chemotherapy.

P098. AUDIT OF NEOADJUVANT CHEMOTHERAPY IN MANAGEMENT OF BREAST CANCER – OUR UNIT EXPERIENCE

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Introduction: Neoadjuvant Chemotherapy (NAC) is offered to ER negative, HER2 positive women where tumour size may be reduced. Concerns regarding increased local recurrence rates and length of disease-free

survival may influence MDT decision making.
Methods: This audit reports a single unit experience, over 2 years, in 62 patients who underwent NAC and their radiological and pathological response to treatment.
Results: The mean age of this cohort was 46.5 years. Out of 42 symptomatic (67.7%) patients, 28 (45%) presented within 4 weeks. Eight (12.9%) were screen detected.
Commonest TNM presentation was T2(33)N1(35)M0(59). Indication for NAC was breast conservation in the majority(54,62%), followed by ER-ve, Her2+vity(10,16.1%), locally advanced tumour(15,24.1%), inflammatory(8,12.9%) and triple negative tumours in <50 years(11,17.7%). 32 (52%) women had ER positive,13 (21%) had HER2 positive and 20 (32%) had triple negative cancers.
Excellent radiological (MRI) response was seen in 17 (27.4%) and partial response in 38 (61.2%) patients. 44 (71%) underwent breast conserving surgery (BCS) while 18 (29%) had mastectomy. Fifteen (24.19%) had their decision for mastectomy changed after NAC. Eleven (18%) had a complete pathological response (CpR). All patients had undergone surgery within 8 weeks of final NAC. Four (6.4%) patients were reported to have local recurrence (LR) at the conclusion of the audit period.
Conclusion: Patients offered NAC in our unit fit the criteria suggested by NICE guidelines. Our rates of CpR (18%Vs.15-36.6%), improved BCS rates post NAC (24.9%Vs.16-25%), and LR rates (6.4%Vs.6%) are acceptable and comparable to the literature.

P099. IS THERE A NEED FOR A SECONDARY BREAST CANCER NURSE SPECIALIST IN NORTHERN IRELAND?

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Introduction: Of 691,000 people with breast cancer in the UK, approximately 30% will develop secondary breast cancer (SBC) within 15 years. 35,000 are living with SBC and 11,500 die annually from the disease.
Since 2013 it has been compulsory for Health Trusts in England to collect data on SBC but this has not been the case in Northern Ireland.
Methods: New diagnoses of SBC since mid-2016 were recorded. Clinic lists trawled and SBC patients identified. Experience surveys and focus group invitations were sent to appropriate patients with SBC diagnosed more than 2 months before asking questions about their experience of care and improvements needed.
Results: From June 2016-November 2018, 255 were identified with SBC. Currently 155 with SBC in the Belfast Trust. Average of 70 new diagnosis of SBC per year. 103 surveys distributed, 40 returned (39% response rate). 5 SBC patients attended the patient focus group.
Gaps in care relating to Specialist Nursing Support included:

- Lack of support services
- Poor understanding of contacts and support
- Lack of Holistic Needs Assessment provision
- No ongoing specialist nursing support

Conclusions: SBC patients in Northern Ireland who have complex support needs do not have access to the support available to such patients throughout the rest of the UK.
Currently Breast Care Nurses provide ad-hoc support for these patients. A review of the service with *Breast Cancer Care* and *Breast Cancer Now,* identified the need to develop a support group, better information, a secondary support package and to secure funding for an SBC Nurse Specialist.

P100. HEALTH AND WELLBEING EVENTS ARE A VALUED CONTRIBUTION TO A BREAST CANCER PATIENT'S RECOVERY AND SURVIVORSHIP

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Introduction: Health and wellbeing events (HWE) are offered to all breast cancer patients who enter into our Self-Directed Aftercare scheme. These are education events for patients who self-manage their follow-up and have significant resource implications in terms of staff time. Therefore an assessment of the value of these events was undertaken.
Methods: Suitable patients were invited to a HWE. Attendance rates were recorded. Verbal and written feedback from patients was sought and responses collated using qualitative research methods.
Results: Major themes in both written and verbal feedback included having the opportunity to learn from people 'in the same boat'. Relatives enjoyed the opportunity to learn with the patient, giving them a better understanding of the patient's experience. Potential areas for improvement included access to dieticians, information on employment issues and opportunities for participation in recovery programmes post-cancer. The events are supported financially by Friends of the Cancer Centre, a regional cancer charity. Overall patients and relatives valued the HWE's.
Conclusions: HWE's provide a valuable resource for both patients and their supporters. It comes at a time when they are beginning to focus on life beyond cancer and can give them new insights into self-care and opportunities for the future. Several strategies to increase uptake such as including patient feedback in invitations have been tried and will be assessed in the future.
Due to the success, HWE are now offered to all breast cancer patients on completion of treatment in order to offer an equitable service.

P101. BREAST OPEN ACCESS FOLLOW-UP PATIENT SATISFACTION AUDIT

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The aim of the Open Access Follow Up (OAFU) programme is to ensure that those living with and beyond cancer get the care and support they need to lead as healthy and active a life as possible, for as long as possible. These needs of cancer survivors include medical, psychological, social, spiritual, financial and informational needs.
OAFU is initiated after patient cancer treatment and gives the patients open access into the service through communication with the open access team, and then they are fast-tracked back into the service if symptoms indicate further concerns.
The primary purpose of follow-up is to detect cancer recurrence, identify and treat late effects of treatment. The traditional model follows a standard regime of outpatient appointments and surveillance tests over several years. Patients can be seen by any member of the clinical team.
Increasing incidence of cancer, alongside increased survival rates are putting huge pressure on outpatient resources and impacting on the quality and efficiency of services provided. Both patients and professionals have identified that many appointments are unnecessary, add no value and incur unnecessary costs for patients.
The key principles of supported self-management for cancer patients are:

- Ensuring that patients are equipped with the knowledge and confidence to monitor their own condition.
- A treatment summary is completed prior to registration on the pathway.
- The implementation of a remote monitoring system to ensure surveillance tests are safely monitored
- Effective communication between patients, primary care and the specialist MDT.
- Guaranteed rapid re-access into the service as required.

P102. THE BENEFITS OF A NURSE-LED BRA FITTING SERVICE TO BREAST ONCOLOGY PATIENTS IN THEIR POST-OPERATIVE RECOVERY

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Background: Ladies undergoing breast surgery at Nottingham City Hospital are discharged with a free postsurgical bra. Nurses who have been trained in bra fitting determine the bra size. We believe that the benefits of a properly fitted bra include post surgery comfort and support to improve

the post-operative experience.
Aim: The aim of this study was to explore the patient experience of our bra fitting service, in particular whether they found the service useful and if it made a difference to their post-operative recovery.
Method: This was a prospective questionnaire based patient reported outcome study of patients undergoing surgery at the Nottingham Breast Institute over a period of one month. Data was collected regarding if they had had a bra fitted and how they felt it had benefited their recovery.
Analysis of results: A total of 89 patients responded of which 55 patients (61%) had had a bra fitted before discharge from hospital. 45 out of the 55 patients (81.8%) derived some benefit, namely comfort (N=29), reduced need for analgesia (N=8), and helped mobility (N=4). Of those that had no benefit 60% said it was due to poor fit. The bra fitting service was rated very good or good by 60% and satisfactory by 18.2%.
Conclusion: The study demonstrates that breast surgery patients found our bra fitting service beneficial to their post-operative recovery mainly in terms of their comfort. We would strongly recommend all breast surgery units offer this service but we acknowledge the economic implications.

P103. DO OUR "FEEL MORE LIKE YOURSELF" SESSIONS HAVE A LASTING EFFECT ON BREAST CANCER PATIENTS FEELINGS OF SELF-ESTEEM AND SELF-CONFIDENCE

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Breast cancer patients often have to endure gruelling sessions of chemotherapy which all have a massive impact on their bodies and which can have profound effects on their feelings of self-esteem, self-confidence and body image.
As a team we know how fantastic the" Look Good Feel Better "service has worked for patients, but we were unable to set this up at our hospital as there were services at two other hospitals in our region. This meant that patients we referred had to travel some distance to attend and there was often a waiting list.
We therefore set up our own service which we called "Feel More like Yourself" after the Macmillan Booklet which offers ladies advice on how to put on their make-up.
We have had excellent feedback from the patients when they have attended our sessions, but we wanted to explore if these sessions had had a lasting impact on the patients as was our initial aim.
An audit / questionnaire has been devised which we have sent to the patients who have attended over the last three years to see if these sessions have impacted on their self-confidence and self-esteem. The data we get back from this will hopefully help us to develop this service further in the future.

P104. EVALUATING AESTHETIC OUTCOME FOR BREAST RECONSTRUCTION; A DELPHI CONSENSUS PROCESS FOR EXPERT PANEL ASSESSMENT AS A BASELINE FOR AN OBJECTIVE AESTHETIC ASSESSMENT TOOL

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Introduction: Evaluation of reconstructive aesthetics is challenging. In the absence of a gold standard, panel assessment is a widely adopted method. Heterogeneity and poor internal consistency renders comparison challenging. We describe the development of an expert panel method using a Delphi Consensus Model.
Methods: REC approved. Consultation with experts in reconstructive breast surgery and literature review shaped the questionnaire for use in a Delphi consensus process. 20 criteria relating to aesthetic assessment were represented. Participants rated each criterion according to importance (1, very important – 9, not important). Distribution of the questionnaire was via iBRA.net and ABS. Iterative rounds of voting with predefined elimination criteria identified key elements of aesthetic assessment for consensus discussion and final round voting.
Results: 61 surgeons (88% consultants) completed Round 1, 49 Round 2, and 18 of them participated in consensus discussion and final round voting. Oncoplastic (75%) and plastic (25%) surgeons were represented. Iterative voting focused the criteria from 20 to 13 items. After discussion, final voting resulted in symmetry, volume, shape, position of breast mound, nipple position, and a global opinion to be included. It was agreed that panels should comprise 3-5 members and each item should be scored on a 5-point Likert scale.
Conclusions: Consensus discussion identified the need for a clear definition of each item to be provided to panel members and final voting resulted in 6 items for inclusion. This provides a framework for panel assessment in the development of an objective outcome tool within a proposed multi-centre study.

P106. APPROPRIATELY-DESIGNED RANDOMISED TRIALS MAY BE AN ACCEPTABLE METHOD FOR ADDRESSING UNCERTAINTIES IN IMPLANT-BASED BREAST RECONSTRUCTION: PRELIMINARY FINDINGS FROM THE IBRA RANDOMISATION ACCEPTABILITY SURVEY

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Introduction: High-quality evidence to support best-practice in implant-based breast reconstruction (IBBR) is lacking. Randomised clinical trials (RCTs) are needed but these are challenging. iBRA is a four-phase study that aimed to inform the feasibility, design and conduct of an IBBR-RCT. Phase 3, the RCT acceptability survey, aimed to explore professionals' attitudes to a future trial.
Methods: The survey was developed by the iBRA steering group based findings from phases 1(national practice questionnaire) and 2(prospective audit). The survey was distributed electronically via the professional associations and trainee research network. Ethical approval was obtained.
Results: 154 respondents included 76 consultant breast surgeons;14 consultant plastic surgeons and 33 specialist nurses. 70% (108/154) of respondents felt there was uncertainty regarding best-practice in IBBR but only a third (51/154) felt there was uncertainty regarding the use of mesh. The greatest areas of uncertainty were biological vs.synthetic mesh for subpectoral reconstruction (98/154, 64%) and implant position (pre-vs.subpectoral;98/154, 64%). Only half (85/154) felt that a RCT was needed but 70% (108/154) felt that an appropriately-designed RCT would be possible. Almost half (75/154) respondents would recruit to an RCT comparing subpectoral IBBR with biological vs. synthetic mesh and 40% (61/154) would recruit to a trial comparing pre-vs.subpectoral implant-placement. Implant loss at 12 months was considered the most important primary outcome for a future trial.
Conclusion: The iBRA RCT acceptability survey supports the potential feasibility of an RCT in IBBR. Qualitative work is now needed to explore these findings in more detail to optimise the success of a future trial.

P107. A SYSTEMATIC REVIEW AND META-ANALYSIS OF THE CLINICAL AND QUALITY OF LIFE OUTCOMES OF IMMEDIATE AND DELAYED AUTOLOGOUS MICROVASCULAR FLAP-BASED BREAST RECONSTRUCTION IN THE CONTEXT OF RADIOTHERAPY

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Introduction: Effects of post-mastectomy radiotherapy (PMRT) on autologous breast reconstruction (BRR) are controversial. This review evaluates clinical and quality of life (QoL) outcomes after immediate and delayed free flaps (DIEP, TRAM and SIEA).
Methods: The review was registered *a priori* on PROSPERO (CRD42017077945). EMBASE, MEDLINE, Google Scholar, CENTRAL, SCI and Clinicaltrials.gov were searched (August 2000-2018). Two independent reviewers evaluated complications, aesthetic and QoL outcomes. Study quality and risk of bias were assessed using GRADE and Cochrane's

ROBINS-I tool respectively.
Results: 15/631 studies, with 1633 patients (407 PMRT, 414 no RT and 812 neo-adjuvant RT), were included. There were 3 prospective/12 retrospective cohort studies and no RCTs. Quality was low, with moderate-serious risk of bias. There were no differences in Grade III *Clavien-Dindo* complications between PMRT and no RT groups (OR 1.53, p=0.42, CI 0.55-4.26), nor between neoadjuvant RT and no RT (OR 1.24, p=0.39, CI 0.76-2.04) or pooled PMRT/neoadjuvant RT versus no RT (OR 1.37, p=0.18, CI 0.87-2.15). One study (n=106) reported lower BREAST-Q median breast satisfaction in PMRT group (64 vs 75, p=0.008); two studies reported no differences in reconstructed breast symptoms using BREAST-Q, however, one (n=125) reported greater breast symptoms in PMRT group using EORTC-QLQ-BR23 (median difference 8, p<0.0001). Three studies (n=161) reported inferior aesthetic outcomes in PMRT group.
Conclusions: Immediate autologous BRR with PMRT may be acceptable, however current evidence is poor quality and inconclusive. Level-I evidence with evaluation of *a priori* core outcome sets and cost-effectiveness is required for national guidelines and optimising shared-informed consent.

P108. EXTREME ONCOPLASTIC CONSERVATION IS A SAFE NEW ALTERNATIVE TO MASTECTOMY

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Aims: Extreme oncoplastic breast conserving surgery (eOPBCS) allows breast conservation for tumours ≤50mm, but long-term outcomes are unclear. We investigated early complications and the longer-term clinical and oncological outcomes following eOPBCS to assess its clinical utility and safety.
Methods: A prospectively collected database of all eOPBCS procedures (1993-2016) using LD miniflaps (MF) and therapeutic mammoplasties (TM) was interrogated and cross-checked with hospital records to establish length of follow up (FU), clinical outcomes (complications, revisions), local recurrence (LR) and survival.
Results: Ninety eOPBCS procedures (62 MF, 28 TM) performed for large tumours (mean 67 [50-177] mm) were identified, overall FU 80 (10-308) months (MF 91 [13-308], TM 54 [10-120] months). Forty two per cent were node +, 2 were benign and excluded from LR and FU analysis. Eleven patients required surgery for positive margins (MF 3 re-excisions / 2 mastectomies, TM 6 mastectomies). Surgery for complications (e.g. delayed healing, infection, haematoma) and subsequent revision (e.g. fat transfer, nipple reconstruction) was required in 6% and 37% of MF patients and in 18% and 7% of TM patients respectively. Seven LRs were recorded (MF 5 *versus* TM 2), LR rate 1.2% PA [MF 1.1% *versus* TM 1.7%], mortality rate 2.1% PA).
Conclusion: Long-term FU of this unique series confirms that eOPBCS provides a safe alternative to mastectomy +/- reconstruction for patients with bulky tumours, without risking local control. TM patients have more early complications but MF patients require more revisions with more prolonged FU.

P109. PRIMARY RADIOTHERAPY AND DEEP INFERIOR EPIGASTRIC ARTERY PERFORATOR (DIEP) FLAP STUDY (PRADA): AESTHETIC OUTCOME AND PATIENT SATISFACTION AT ONE YEAR

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Introduction: Radiotherapy in the context of autologous flap reconstruction is a hot topic and no consensus has been reached. The PRADA study (NCT02771938) is a safety and feasibility study of neoadjuvant radiotherapy (NRT) prior to mastectomy and DIEP flap reconstruction. Secondary outcome measures include Patient Reported Outcome Measures (PROMs) and panel assessment of aesthetic outcome using 3D images.
Methods: Women undergoing neoadjuvant chemotherapy (NACT) who will also require radiotherapy were invited to join an observational cohort study evaluating the safety and feasibility of NACT and NRT with mastectomy and DIEP reconstruction 2-6 weeks later. 3d surface images were obtained at baseline, 3, and 12 months, alongside the validated BREAST-Q Reconstruction Module.
Results: 11 of 17 women in the aesthetic outcome subgroup have reached 12 months' follow-up. The median BREAST-Q score for '*satisfaction with breasts*' was 48/100 at baseline (n=13), 73/100 at 3 months (n=13), and 81/100 at 12 months (n=9 {6 have not reached 12 months}). Panel assessment is scheduled for March when all participants will have reached study completion.
Conclusions: Patient satisfaction with reconstruction is higher for PRADA than most other series. This may be due to short follow-up or patients perceiving an advantage from participation in the study. The expert panel assessment will be an important comparison. A randomised controlled trial is planned to further assess this pathway.

P110. PARTIAL BREAST RECONSTRUCTION (PBR) WITH LATERAL CHEST WALL PERFORATOR FLAPS (CWPF) TO FACILITATE BREAST CONSERVATION SURGERY (BCS) IN WOMEN WITH BREAST CANCER: A SINGLE CENTRE EXPERIENCE OVER 7 YEARS AND REPORT ON FOLLOW-UP AND PATIENT REPORTED OUTCOMES

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Background: Lateral CWPF offers an excellent option for PBR in women undergoing BCS for laterally placed tumours in small to moderate non-ptotic breasts.
Methods: A prospective database has been maintained to collect information on clinicopathological features, complications and follow-up. Patients were asked to complete an anonymised PROM questionnaire. All patients are followed up annually for 5 years.
Results: 105 patients underwent PBR with CWPF between 2011 and 2018. 75% of patients underwent cancer resection and PBR as one operation, whilst a quarter underwent PBR as a two-stage approach. The two-stage approach was undertaken for patients with high tumour to breast ratio (expected loss of breast volume of 30% or more), in an attempt to avoid mastectomy.
The median tumour size on pre-op imaging was 30mm. 48% women in this cohort had chemotherapy and 12% were HER-2 positive. The complication rate was low and re-operation rate for inadequate margins was under 10%. The median follow-up is 39 months (range: 12 months to 7 years) with no local recurrence reported so far; 3 patients presented with distant disease. The presence of flap did not interfere with interpretation of surveillance mammogram in our cohort. PROM states high satisfaction scores in majority of the domains.
Conclusion: BCS with PBR provides an effective oncological approach with good cosmesis, as judged by patients. We recommend considering two-stage approach in women with high tumour-breast ratio to ensure successful BCS prior to undertaking PBR. The medium term follow-up data establishes the safety of BCS in women with high-risk tumour characteristics.

P111. A MULTICENTRE AUDIT ON CHEST WALL PERFORATOR FLAPS FOR PARTIAL BREAST RECONSTRUCTION IN BREAST CANCER

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Introduction: Partial breast reconstruction with chest wall intercostal perforator flaps is a relatively new technique, which uses volume replacement. It can be used effectively and safely to excise much larger tumours with good aesthetic outcomes. We present outcomes from a multicentre audit conducted in the United Kingdom.

Methods: All consecutive patients treated across three centres for wide local excision and partial breast reconstruction with a chest wall perforator flap from January 2015 to October 2018 were included. Oncoplastic breast surgeons performed the procedure and flap selection was based primarily on tumor location. Patient demographics, treatment details and post-operative outcomes were noted. Early complications were recorded as those occurring up to 90 days post-operatively.
Results: 112 patients were included in the analysis. Mean patient age was 54 years with a mean BMI of 26.6kg/m^2. About 85% excisions were performed for invasive cancers with a mean specimen weight of 74.34 grams and a mean excision volume of 137.32 cc. Fourteen patients (12.5%) had a margin revision for close or positive margin. The median follow-up was 13 months. Three patients (2.68%) had post-operative haematoma requiring evacuation. Two patients had fat necrosis managed conservatively. One patient had a donor site wound dehiscence. Results were comparable across three centres.
Conclusion: Chest wall perforator flaps have satisfactory post-operative outcomes with minimal donor site morbidity and no flap related major complications in our experience. Oncoplastic breast surgeons with one-to-one training and mentoring can perform these procedures. Long-term aesthetic and oncological outcomes including PROMS need to be reported.

P112. ONCOPLASTIC CONSERVATION FOR CT3 OR MULTIFOCAL / MULTICENTRIC CANCERS (EXTREME ONCOPLASTY) IS ONCOLOGICALLY SAFE

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Introduction: cT3 breast cancers or multifocal / multicentric (MFMC) cancers are treated with mastectomy most commonly. However, oncoplastic techniques may allow breast conservation in selected patients, which is called extreme oncoplasty. The evidence for extreme oncoplasty is limited, hence we investigated this in our institutions.
Methods: Patients with cT3 or MFMC cancer on preoperative imaging were identified from a prospectively maintained oncoplastic database of two units in Glasgow. Demographic data, preoperative tumour parameters, operative techniques, post-operative pathology and follow up data were analysed.
Results: 292 consecutive patients were recorded in the database between June 2007 and March 2018. 49 patients with 50 breast cancers were treated with extreme oncoplasty. 28 patients had cT3 (median size: 55mm) and 21 had MFMC cancers. 45 patients were treated with volume displacement and 4 with volume replacement (3 LICAP, 1 TDAP). The median weight of excised specimen was 243 grams. 3 patients received neoadjuvant treatment with no response. 42 patients had invasive cancer, 7 had DCIS/LCIS. 32 patients were ER+, 5 were HER-2+, 13 were node+. 9 patients had incomplete margins (18.4%) (3 underwent re-excision, 6 had completion mastectomy). 23 patients received adjuvant chemotherapy and all received radiotherapy. During a median follow-up of 67 months (47 patients with a minimum follow-up of 1 year) no loco-regional recurrence was detected, two patients developed distant metastasis and two patients died.
Conclusions: Extreme oncoplasty appears to be safe oncologically, although more patients with longer follow-up is required for better evidence.

P113. BASELINE VOLUME AND SURFACE ASYMMETRY USING 3D SURFACE IMAGING (3D-SI) IN A BREAST CONSERVING TREATMENT (BCT) POPULATION

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Introduction: Awareness of baseline surface and volume asymmetry pre-operatively is important for prediction of aesthetic outcome and potential correction intra-operatively. Many women are unaware of differences in their natural breasts which may be accentuated by BCT.
Methods: As part of a REC approved RCT, women had baseline 3D-SI using VECTRA prior to BCT. Surface asymmetry (root mean squared mm) and volume asymmetry (%) were calculated using a validated technique with MIRROR software. Surface asymmetry is calculated by reflecting the surface image of one breast across the midline on to the other breast and measuring the average distance between the surfaces.
Results: 81/117 women have been recruited to date (projected completion January 2019). Asymmetry and volume calculation was possible in 78. Baseline surface asymmetry was not normally distributed. Median asymmetry was 3mm (min 1, max 13, IQR 2-4). Volume was normally distributed with a mean percentage asymmetry of 11% (range 0 – 33%). No association was seen between cancer side and larger breast.
Conclusions: Baseline surface and volume asymmetry is highly variable in the pre-operative population. Surface asymmetry is more useful than volume as it encompasses volume and breast position in one measure; however surgeons are more accustomed at considering volume. It is important to have knowledge of pre-existing asymmetry for operative planning, for which 3D-SI can provide objective values. Highlighting baseline asymmetry may be useful to help manage expectations and aid decision-making regarding symmetrisation. In our experience women comment that 3D-SI illustrates their asymmetry better than looking in a mirror.

P114. THE INTRODUCTION OF A BREAST IMPLANT SURGICAL CHECKLIST REDUCES IMPLANT LOSS RATE

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Introduction: Implant based reconstruction accounts for around 40% of immediate breast reconstructions nationally. Implant loss impacts patients emotionally, physically and can delay adjuvant treatment. National Mastectomy Breast Reconstruction Audit reports implant losses of 9% in immediate reconstruction at 3 months. ABS/BAPRAS guidelines have targets set at <5%.
Our institution noticed increases in implant loss due to infection between 2016 and 2017, with significant variation in practice between surgeons. We aimed to identify causative factors, compare practice to national guidelines and develop strategies to minimise losses.
Methods: We reviewed cases of implant loss between 1/1/16 – 31/9/17 using the trust's reconstruction database. We completed a root cause analysis to identify causative factors, and implemented a surgical checklist aimed at standardising practice and reducing contributing factors to implant loss.
Results: Between 1/1/16 – 31/9/17, 116 primary implant reconstructions were performed. 19 (16.4%) resulted in implant loss due to infection within 3 months. Root cause analysis demonstrated multifactorial aetiology – no causative link between adjuvant therapies, implant type, ADMs or patient factors were identified. No single pathological organism was identified. Following introduction of a surgical checklist, 42 primary implant reconstructions were performed. Only 3 (7.1%) resulted in implant loss within 3 months. Implementation of a standardised surgical checklist therefore reduced implant loss from 16.4% to 7.1%.
Conclusions: There is a high risk of implant loss following primary reconstruction. The aetiology is multifactorial; patient selection and standardised surgical technique is recommended for minimising losses. The introduction of a surgical checklist is one strategy aimed at achieving this.

P115. PATIENT REPORTED OUTCOMES AFTER LIPOFILLING

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Introduction: Disturbances in body image and sexuality after breast cancer are common amongst women. Poor cosmetic outcome after breast

surgery is known to lead to low self-esteem and poor body image. The aim of this study is to identify if lipofilling improves patient satisfaction.
Methods: This retrospective study included all patients undergoing lipofilling at a single institution between September 2014 and February 2018 (n=76). Patients received two validated questionnaires (Breast-Q and Sexual Adjustment and Body Image Scale) to measure health-related quality of life and patient satisfaction before and after lipofilling.
Data was summarized with simple descriptive statistics. Differences between the scores were tested for statistical significance using the Wilcoxon test for paired samples.
Appropriate divisional ethical approval was obtained to undertake study.
Results: 101 procedures were performed in 76 patients. 32 completed questionnaires returned; a response rate of 42%.
Lipofilling improves psychosocial wellbeing significantly across multiple areas including patients level of confidence (p=0.0001), feeling of normality (p=0.0002) and femininity (p=0.0002).
Reported outcomes concentrating on satisfaction with breasts highlights improved satisfaction when looking in the mirror clothed (p=0.0001) and unclothed (p=0.0001). Our patients report that they feel more satisfied in their clothes following lipofilling (p=<0.0001), that they are able to wear more fitted clothes (p=0.004) and an improved softness of the breast is enhanced (p=0.0002).
Conclusion: Lipofilling significantly improves a patient's psychosocial wellbeing and satisfaction with their breasts following surgery. Lipofilling is a useful tool to help improve low self-esteem in breast cancer patients.

P116. CLIMBING THE LEARNING CURVE WITH CHEST WALL PERFORATOR FLAPS

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Introduction: Chest wall perforator flaps (CWPF) are increasing in popularity to avoid mastectomy in patients with a large tumour to breast ratio and give superior cosmesis to breast conserving surgery (BCS) alone. We report our experience of introducing CWPF.
Method: Analysis of a consecutive series of CWPFs from a prospectively maintained database. All operations were performed by a single surgeon, who is now supervising surgeons in the unit and other centres. All were added to the UK National Flap Registry.
Results: Since 2016, 32 patients underwent CWPF surgery (14 LTAP, 13 LICAP, 3 combined, 3 AICAP, 1 MICAP). Four were two-staged, 28 were immediate. Median age 53 years (32-70), median cup size was a C (AA-G), mean BMI 24.8 kg/m^2 (19.3-32.1). Mean pre-operative tumour size was 34mm (13 -65mm) and mean specimen weight was 107.8g (14-282g). Median operative time was 2 hours, 47 minutes. Seven patients (21.8%) underwent re-excision; none had to be converted to mastectomy. Complications included 1 haematoma, requiring re-operation, and 1 wound infection, requiring intravenous antibiotics, no flap loss has been reported.
Conclusion: CWPF has been successfully introduced, with good cosmetic outcomes and a low complication rate. This has extended our ability to perform BCS without causing deformity. Re-excision rates were similar to ABS guidelines (20% re-excision rate). The higher than expected re-excision rate was caused by radiological under-estimation of DCIS in 4 of the 7 patients. They all underwent successful re-excision whilst maintaining the CWPF. With increasing experience, operative times have reduced and indications have expanded.

P117. TIGR MATRIX SYNTHETIC LONG-TERM RESORBABLE MESH FOR PRE-PECTORAL AND SUB-PECTORAL IMPLANT BASED BREAST RECONSTRUCTION: OUTCOMES OF TWO YEARS' PRACTICE

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Introduction: The use of biological matrices to assist implant-based breast reconstruction is a widespread but costly technique. Our unit has used TIGR Matrix, a synthetic long-term resorbable mesh, as our primary method to assist implant coverage since 2016. We present our initial outcomes.
Methods: All patients in whom TIGR mesh was used for pre-pectoral or sub-pectoral implant based breast reconstruction between 2016 and 2018 were included in the analysis. Their demographics, co-morbidities, pathology, treatment details and outcomes were accessed from electronic patient records.
Results: 34 patients underwent 40 implant reconstructions using TIGR. The average age and BMI were 48 and 25.7 respectively, 2 patients were active smokers and none were diabetic. 30 operations were for breast cancer, 5 for DCIS and 5 risk-reducing. Average specimen weight was 523g (186-1100g) with a median 415cc implant volume (125-690cc) and the majority were pre-pectoral reconstructions (n=30). 2 patients had previous ipsilateral breast radiotherapy, 6 had neoadjuvant chemotherapy (17.6%) with 12 undergoing adjuvant chemotherapy (35%) and 9 radiotherapy (26.4%). There were 3 cases of infection, 3 of wound necrosis, 2 symptomatic seromas and 1 revision due to implant rotation. Overall 2 implants were lost (5%) both due to wound breakdown and infection.
Conclusions: Our initial outcomes using this synthetic mesh are comparable to other published studies of biological and synthetic mesh-assisted breast implant reconstruction. Its low cost compared to biological meshes could make it an attractive option pending longer term outcome data.

P118. POLYURETHANE IMPLANTS: TIME TO LEAVE THE ADM ON THE SHELF?

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Introduction: Pre-pectoral breast implant reconstruction has, to date, commonly employed an acellular dermal matrix (ADM) to cover the implant. The ADMs function is to reduce capsular contracture (CC), improve aesthetic outcome and shorten time to the final result. However Polyurethane Implants (PUI) have a microfoam texture that promotes integration into the tissues, preventing CC and eliminating the need for ADM. We present a single surgeon series of Primary Polyurethane Pre Pectoral Implant Reconstruction.
Methods: A prospectively maintained database of all implant based reconstruction was analysed for all primary immediate pre pectoral breast reconstructions utilising PUI. The patient demographics, indications and complications were determined, as was the use of post-operative radiotherapy and patient satisfaction.
Results: 22 immediate PUI pre-pectoral breast reconstructions were performed in 17 patients (5 bilateral) over a 2 year period, mean period of follow up 12 months. Mean age was 52 years. Indications were cancer treatment and risk reduction. 4 (18.2%) patients had undergone neoadjuvant chemotherapy and 7 (31.8%) underwent post-operative radiotherapy. No seromas, infections or implant losses. Patient satisfaction was high.
Conclusions: There are several benefits observed in this series of PUI immediate reconstructions, such as the low postoperative complication rate and the cost saving without the need of purchasing an ADM. However long-term follow up is required. We are encouraged by the results to date.

P119. DESIGNING A DEFINITIVE RANDOMISED CLINICAL TRIAL IN IMPLANT-BASED BREAST RECONSTRUCTION: A QUALITATIVE STUDY

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Introduction: Mesh-assisted implant-based breast reconstruction (IBBR) has become established as the standard of care despite a lack of high-quality evidence to support its safety or effectiveness. Well-designed randomised trials (RCTs) are ideally needed. The audit phase of the iBRA study demonstrated equivocal short-term outcomes in patients undergoing IBBR with biological and synthetic mesh and with pre and subpectoral techniques supporting a future trial. This study, the third phase of iBRA, explored surgeons' perceptions of the acceptability of future RCTs in IBBR.

Methods: Semi-structured qualitative interviews were undertaken with a purposive sample of 33 health professionals (HPs) involved in IBBR to explore their attitudes to the feasibility of RCTs. Interviews were transcribed verbatim and data analysed thematically using constant comparative techniques. Sampling, data collection and analysis were undertaken iteratively and concurrently until data saturation was achieved.
Results: Many HPs appreciated the limited quality of evidence supporting IBBR techniques. Whilst some supported the need for definitive RCTs in IBBR, others demonstrated reservations about their feasibility and suitability. Lack of equipoise and limited appreciation of the value and design of pragmatic RCTs were central to many concerns. Around half felt randomisation of implant position (pre vs subpectoral) and mesh used (biological vs synthetic) were acceptable, whilst others opposed this.
Conclusion: Despite some opposition to RCTs in IBBR, certain designs may be acceptable and feasible. To provide the much-needed evidence, efforts must focus on engaging the reconstructive community in a future RCT and improving understanding of the benefits of high-quality pragmatic RCTs.

P120. IMMEDIATE RECONSTRUCTION FOLLOWING MASTECTOMY FOR BREAST CANCER: LONG-TERM OUTCOMES FROM A SINGLE INSTITUTION

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Background: Reconstruction following mastectomy for breast cancer may be immediate or delayed. Immediate reconstruction offers superior aesthetic results and improved psychological outcomes. There is concern that rates of cancer recurrence may be higher in immediate breast reconstruction, when compared to delayed reconstruction or mastectomy alone.
Aims: The aim of this study was to evaluate the oncological outcomes of patients who have undergone immediate reconstruction following mastectomy for breast cancer.
Methods: This was a retrospective cohort study of all patients undergoing mastectomy and immediate breast reconstruction for breast cancer within our institution over a 10 year period (2007 – 2017).
Results: 399 female patients had immediate reconstruction at the time of mastectomy for breast cancer. Mean patient age at time of surgery was 50 years (range 24-71 years). 330 patients had deep inferior epigastric perforator (DIEP) flap reconstruction (82.7%), 23 patients had transverse rectus abdominis myocutaneous (TRAM) flap reconstruction (5.8%) and 11 patients had other reconstruction (2.8%). Median follow-up was 67 months. The overall local recurrence rate was 5.3% (n=21), 4.3% had locoregional recurrence, (n=17) and 16.3% had distant metastatic disease (n=65). Overall breast cancer specific survival rates were 100% and 100% at one year, 97.2% and 97.5% at five years, and 80.5% and 82.9% at 10 years respectively.
Conclusions: This large retrospective cohort demonstrates the feasibility and safety, in particular low local recurrence rates, of immediate reconstruction in patients with breast cancer.

P122. PERMISSIVE BREAST RECONSTRUCTION AND IMPLANT LOSS. A DELICATE BALANCE AND AN ETHICAL CHALLENGE

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Objectives: Permissive immediate breast reconstruction can result in higher rates of implant loss. Strategies to reduce implant loss can include denying immediate reconstruction to those with more than one risk factor (high BMI, smoking, diabetes, radiotherapy, chemotherapy and axillary node clearance). In contrast, we assessed a permissive policy in Newham, an inner London setting with high levels of socioeconomic deprivation and multiethnicity.
Method: Retrospective review of patients receiving immediate breast reconstruction between 2014 and 2015 via assessment of electronic and paper patient notes. Risk factors and outcomes (implant loss) were measured at 3, 12 and 24 months.
Results: Nineteen patients were identified as having unilateral immediate implant based reconstruction. Median age 50 (range 22-83), median BMI 28.8 (range 18.7-46). Five (26%) were smokers. Only 2 had a single comorbidity (10.5%). Seventeen (89.5%) had more than one comorbidity.
Thirteen (67%) had an axillary node clearance, 4 (21%) received neoadjuvant chemotherapy (NACT) and 12 (63%) received adjuvant chemotherapy. Ten patients (52%) received adjuvant radiotherapy (RT).
One had implant loss at 3 months (5%). The number of implant failures at 1 year was 4 (21%) and at 2 years was 5 (26%).
Conclusion: Implant loss at 3 months is at an acceptable limit but loss at 1 year is high. However, this is in a cohort of patients in whom many units would have denied them any immediate reconstruction. Hence the ethical dilemma. At what cost is a unit's figures against those of the individual patient?

P123. EVALUATING CORRELATION BETWEEN AGE AND THE AXILLARY LYMPH NODE CORTICAL THICKNESS (ALNCT) ON ULTRASOUND, IN PATIENTS ATTENDING THE SYMPTOMATIC BREAST CLINIC, WITH NO CANCER OR ANY CONDITION RESULTING IN REACTIVE NODES

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Introduction: It is estimated that more than 40% of newly diagnosed breast cancers present with nodal metastasis. The sensitivity of ultrasound-guided FNAC/biopsy to assess axillary nodal metastasis ranges from 28.5 % to 55.6%. There is an overlap in the appearance of benign/reactive and malignant nodes. Several studies have been conducted to evaluate a cut off for the ALNCT and there have been some variations in millimetres from one centre/study to another, ranging from 2.0mm to 3.0mm.
Method: HRA approval was obtained. The ALNCT of the most prominent node was measured at right angles to the plane of the cortical margin using GE Logic E9 or Philips IU22. 170 patients aged 20 and over with U1 and U2 findings are recruited to the study over a period of three months. SPSS version24 was employed for statistical analyses. Age was sub-grouped according to 5 rationales to determine the 50^{th} and 90^{th} percentiles.
Result: The study revealed a negative correlation of ALNCT with increasing age, supported by a 'p' value of 0.001 and Pearson's -0.42. Patients under 55 years of age had a 50^{th} and 90^{th} percentile of 2.2mm and 2.9mm, respectively. In over 54 year old patients, it was found to be 1.7mm and 2.2mm, respectively.
Conclusion: The negative correlation between ALNCT and age is significant enough to prompt a review of the current practice. It is proposed that ages may be divided into under 55 years and above. The researcher proposes a cut off of 2.6mm for 55 years.

P124. AVOIDING SURGERY IN BREAST CANCER PATIENTS WITH EXCEPTIONAL RESPONSE TO NEO-ADJUVANT CHEMOTHERAPY - ASTARTE TRIAL

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Background: Neoadjuvant chemotherapy (NACT) is increasingly used in phenotype-appropriate, early-stage breast cancer. Modern chemotherapy regimens and the use of targeted therapies can eliminate gross disease in an increasing number of women. Particularly in triple negative (TN) and HER2-positive subtypes, pathologic complete response (pCR) rates exceeding 60% have been reported. In these cases, the role of surgery is limited to histopathological confirmation of pCR. Recent data suggest that in selected women with exceptional clinical and imaging response, post-NACT, pre-surgery large volume, vacuum-assisted core biopsy (VACB) of the imaging residuum can reliably identify those who achieve pCR and therefore may not benefit from surgery. ASTARTE is a pilot study aiming to evaluate the safety of omission of surgery in a selected group of women with exceptional response to NACT.
Methods: Fifty women with unifocal, T1-2, N0, M0, TN or HER2-positive invasive ductal carcinoma of the breast will be entered in the study. To be eligible, women must have completed standard NACT and achieved a

complete or near complete imaging response on ultrasound scan +/- mammogram. They must have also demonstrated a pCR on post-NACT VACB following a standardized protocol. These women will not undergo breast and axillary surgery following completion of NACT but will receive radiotherapy and will continue systemic treatments as indicated. The primary endpoint of the study is the biopsy proven ipsilateral breast tumour recurrence free survival at 5 years. Results will provide data that might support a paradigm change in the treatment of breast cancer.

P125. CLINICAL MANAGEMENT OF BREAST PATIENTS WITH PROVEN BRCA1, BRCA2 OR TP53 MUTATION IN NHS TAYSIDE

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Background: Approximately 5-10% of all breast cancers are hereditary, of which 20-25% are associated with a mutation in either *BRCA1, BRCA2* or *TP53* gene. Despite the availability of national guidelines, the clinical management of mutation carriers in Tayside was unclear. This study aimed to establish the clinical management of mutation carriers and contribute to service improvement.
Methods: Caldicott's approval was granted and the clinical details were collected retrospectively from 2007 to 2017. The current clinical practice was compared to the national SIGN and NICE guidelines.
Results: 299 female mutation carriers (119 *BRCA1,* 179 *BRCA2* and 1 *TP53)* were identified in Tayside. The mean age was 48.6 years (range 18-87). Mutation carriers were referred following a diagnosis of cancer (45.1%) or through cascade genetic testing (45.6%). During genetic counselling, surveillance screening was discussed with the majority of mutation carriers (n=161, 78.9%). 132 (64.7%) individuals opted for routine imaging surveillance (mammogram and/or MRI). Risk-reducing surgery was discussed with 172 (84.3%) mutation carriers and 120 (58.5%) individuals opted for risk-reducing breast and/or gynaecology surgeries. However, chemoprevention was discussed with just 8 (3.9%) mutation carriers and only 2 individuals commenced chemoprevention.
Conclusion: These findings prompted our services to review the clinical management pathway of newly diagnosed mutation carriers. In collaboration with our clinical genetics colleagues, the method of discussion and delivery of all prevention methods is being worked on. Developing written booklets as aides would provide guidance for counsellors, but also sufficient information for patients to make informed decisions regarding their cancer prevention.

P126. IMPACT OF SINGLE USE NEGATIVE PRESSURE WOUND THERAPY ON SURGICAL INCISIONS FOLLOWING BREAST SURGERY: A MULTI-CENTRE EVALUATION

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Introduction: The aim of this evaluation was to determine the impact of single-use negative pressure wound therapy (sNPWT) dressings when used prophylactically on patients considered high-risk for wound healing, undergoing therapeutic breast surgery. A service evaluation was initiated with hospitals currently using sNPWT within their breast surgery unit with an aim of determining the impact of sNPWT within a real world setting.
Method: Data were collected between December 2016 and August 2018 from three hospitals. A baseline sample of 66 patients were documented at discharge and follow up to ascertain the current base rate of complications following breast surgery within the hospitals. The outcomes of a further 66 patients, treated with sNPWT, were documented in identical fashion and comparisons were made between the cohorts.
Results: The use of sNPWT reduced the number of deep surgical site infections (SSIs) from three in the non-sNPWT group to zero in the sNPWT group. Similarly, superficial SSIs were reduced from 9/66 to 2/66. Overall, the use of sNPWT reduced SSI incidence by 75%. The combined data shows an estimated total cost reduction from £22,896 to £13,479, an estimated saving of £9,417.
Conclusion: The results of this evaluation complement the current evidence for sNPWT following breast surgery, and highlights the potential impact when implemented into clinical practice, by use of a pre-determined pathway for application on high-risk patients. It also demonstrates the reduction in wound complications as a direct result of prophylactic sNPWT and the potential for cost-savings to a hospital.

P127. IMPACT OF ONCOTYPE DX TEST ON THE USE OF ADJUVANT CHEMOTHERAPY IN EARLY BREAST CANCER OVER 5 YEARS IN OXFORD, UK

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Introduction: The decision for adjuvant chemotherapy in breast cancer is traditionally based on clinico-pathological factors; about 34% receive it with potential short and long-term side-effects. Oncotype Dx, gene expression profiling assay, is now used for patients with ER+, HER2-, LN-ve cancers to predict chemotherapy benefit as recommended by NICE (2013). Our MDT has been using it regularly since then and has also extended the indication for highly-selected node-positive patients. We evaluated the impact of Oncotype-DX usage on treatment recommendations over 5 years (2013-2018).
Methods: Onctoype DX was carried out on 146 women with ER+, HER2-, invasive breast cancer who underwent primary surgery. The treatment recommendations were noted in the MDT and then compared to the decision after DX testing. The impact on treatment decisions and associated cost impact were assessed.
Results: In the LN negative group (n=77); 43 were recommended to have chemotherapy and hormone-therapy and 34 hormone-therapy only. The RS (recurrence score) allowed 24 women (58%) to avoid unnecessary chemotherapy and discovered 9 (26%) to benefit from chemotherapy. In the LN positive group (n=62); all were recommended chemotherapy; RS allowed 52 women (85%) to avoid it. The costs involved were compared using standard chemotherapy cost without taking into consideration the cost incurred by the hospital to manage chemotherapy complications.
Conclusions: Incorporating Oncotype testing into clinical practice for node-negative and highly-selected node-positive patients, predicted to derive intermediate benefit, has reduced chemotherapy use. No negative impact has been observed so far by omission of chemotherapy.

P128. REDUCING THE BURDEN OF RESEARCH: A FEASIBILITY STUDY OF A NOVEL ONLINE STUDY DESIGN FOR USE IN A MULTI-CENTRE STUDY

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Introduction: Participation in research is beneficial for patients and healthcare providers. Research can prove demanding at patient, clinician and trust level. Patient representatives are supportive of online research to overcome these challenges. We describe results from a pilot study assessing feasibility and acceptability of a novel online recruitment method, and the accuracy of patient-reported data collection.
Methods: REC approved pilot study. A bespoke website was developed in a 'one-day-hackathon' with a website design company. 100 women who underwent implant-based breast reconstruction from 2011-2016 were invited by letter containing the URL and a unique study ID. Once participants had completed the online consent process, access to online data entry pages (demographics, height, weight, treatment received and BREAST-Q) was granted. One hospital visit was required for a 3D surface image, also booked online. We performed real-time process evaluation.
Results: Recruitment rate was 30%. Of these, 79% completed the online

process in an average of 22 minutes. The majority of drop-outs occurred between completing the BREAST-Q and booking photography. 100% completed the online BREAST-Q once started. Patient-reported clinical data was accurate (>95%) in 11/13 domains when compared to electronic records. Process evaluation demonstrated acceptability and provided feedback for minor alterations to the website design.
Conclusions: The novel online study design is acceptable, feasible, and accurate. It is low burden for patients and staff enabling participation for patients with limited free time and for less research-intensive centres. The study design is scalable; we await ethical approval for multi-centre study usage.

P129. IMPROVING BREAST CANCER PATIENT EXPERIENCE THROUGH INNOVATIVE DESIGN THINKING

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Introduction: An increasing body of literature suggests that the architectural layout of a healthcare environment impacts significantly on patient experience, wellbeing and morbidity. We sought to assess patient experience of a London Teaching Hospital Breast Unit to inspire innovative design solutions to create a more sympathetic "healing architecture".
Methods: Post-graduate students on the MSc/MRES in Healthcare Design co-delivered between Imperial College London and Royal College of Art participated in an intensive "Design Dash" and trained to rapidly dissect problems, identify opportunities, and develop solutions. Over eight weeks the students had to gather data, brainstorm new ideas, and craft prototype designs to address areas of improvement raised by patients. Students considering everything from users' motivations and behaviours, to the viability of potential business models, to the feasibility of technological execution.
Results: Three themes emerged: a) the waiting room precipitates anxieties and fears; b) patients emotions are not considered in the "flow" of the service, and c) the environment following bad news is not sympathetic to emotional needs. These challenges were met with innovative design solutions to: a) improve the waiting experience using *dynamic art installation* as a vehicle for positive distraction; b) improve progressive flow so that patients receiving bad news have an alternate exit route, and c) enhance spatial experience after receipt of bad news by reconnecting to nature (concept space: "Lucie Room").
Conclusions: This MSc/MRES Design Dash has generated key themes subsequently championed by the Trust and Charity to be taken forward in a new breast unit re-design.

P130. AN ANALYSIS OF SCREEN-DETECTED BREAST CANCERS IN LEEDS TEACHING HOSPITAL TRUST, FOCUSING ON CONCORDANCE IN HISTOLOGICAL GRADING AND OTHER KEY PROGNOSTIC FACTORS

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Introduction: Breast Cancer (BC) is the most common female cancer (1). Initial histological grading of BC at core needle biopsy (CNB) is a strong determinant for treatment scheme and an independent prognostic factor (2). Accurate grading can be difficult secondary to tumour heterogeneity and inter/intra-observer subjectivity. Overall concordance of CNB and surgical excision for patients diagnosed by the National Health Service Breast Screening Programme (NHS BSP) should be 70% as stated by the Royal College of Pathologists. Grades one, two and three are expected to be seen at a ratio of 3:5:2 respectively (3). This study compares data from Leeds Teaching Hospitals Trust (LTHT) with these existing, strict Quality Assurance (QA) standards.
Methods: This retrospective audit includes 255 patients with screen-detected, invasive, B5b (4) BC found at CNB from January to December 2016 in LTHT. Kappa statistics determined strength of agreement between CNB and corresponding surgical excision. Symptomatic patients and patients who had received neo-adjuvant treatments were excluded.
Results: Agreement of overall grade between CNB and excision = 77.78% (Cohen's kappa = 0.635, 95% CI 0.546-0.725). Grades one, two and three were assigned with a ratio of 32.66%: 50.81%: 16.53%. 100% agreement rates were achieved with the acquisition of ≥6 CNB's or when biopsy length ≥30mm.
Conclusions: LTHT are grading BCs accurately at CNB and meet the national QA standards for overall concordance and ratio of grades assigned. ≥6 CNB's should be taken with biopsy lengths ≥30mm in screen detected BC to optimise concordance between samples.

P131. DOES RAPID ACCESS TO BRCA TESTING CHANGE SURGICAL DECISION-MAKING IN NEWLY DIAGNOSED BREAST CANCER PATIENTS?

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Surgeons and medical oncologists in our unit have been trained to offer "Mainstream" genetic testing for breast cancer patients meeting specific criteria, e.g. triple negative cancer at any age, any cancer under the age of 40 years. Knowing the BRCA status may help plan surgical and chemotherapy treatment. Our aim was to examine the impact on surgical decision-making.
Methods: Data were collected retrospectively on female patients who had Mainstream genetic testing between 17/09/2013 and 29/07/2015. Threshold for testing was set at a 10% likelihood of carrying a mutation, but relaxed after February 2015 to a predicted 5% chance. Data collected includes whether the test results were known before surgery, and type of surgery undertaken, with a specific effort to identify whether the test result had influenced this.
Results: 98 patients were tested before surgery. Mean age was 43 years. 26 (27%) were found to carry a pathogenic BRCA mutation. Mean time from test initiation to result was 25 days. Summarised results shown in the table. Proposed surgical treatment was influenced in 92% of those BRCA positive patients with clear documentation of initial intent. Of the 6 patients who had breast conservation and received a BRCA positive result *after* surgery, 2 underwent bilateral mastectomy, rather than proceeding to radiotherapy.

	Mainstream Results			
	Before Surgery		After Surgery	
	BRCA+ (n=16)	BRCA- (n=55)	BRC+ (n=10)	BRCA- (n=17)
Bilateral Mastectomy	14	4	4	1
Unilateral Mastectomy	0	23	0	6
BCS	2	28	6	10

Conclusion: Most BRCA positive patients who knew their results before surgery opted for bilateral mastectomy.

P132. IS SOCIOECONOMIC STATUS A BARRIER FOR INDIVIDUAL BREAST CANCER AWARENESS RELATED KNOWLEDGE IN DEVELOPING COUNTRIES?

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Introduction: Delayed diagnosis of breast cancer remains a major reason for higher breast cancer related mortality in developing countries. Though the causes are multifactorial, low socioeconomic status is often thought of as one of the prime causes.
Aims: To assess and compare the knowledge level about breast cancer in low and higher socioeconomic status.
Methodology: A study was undertaken in healthy non-affected

population. Gr A (432 females below poverty line designated as low socioeconomic status) and Gr B (439 females above this level) were included in the study. The age group ranged between 30 to 72 years. The awareness levels were assessed by objective oral questionnaires by volunteers. Scoring was done based on the answers given. The questions included define, symptoms, biopsy leading to spread of cancer (misconception), investigations, treatment, body shape alterations, physical disabilities after treatment, source of knowledge, whom should be approached after diagnosis and curability. The hypothesis was tested using student T-test using SPSS software version 24.0.

Result: The mean score in GrA was 4.4 whereas in Gr B was 4.7. Though the mean score in GrB was higher compared to GrA, there was no statistical significance between two groups ($p > 0.05$). However, there was marginally higher knowledge about treatment knowledge in Gr B (4.6 vs 5.0) but it was also found statistically insignificant.

Discussion: The study highlights the fact that knowledge level is equal in all strata of the society and therefore is not the basic cause for delay in self-detection by the women in the society.

P133. SUPPORTING SURVIVORS TO MANAGE THEIR CANCER SURVEILLANCE: NOT MERELY A REALLOCATION OF RESOURCES

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Introduction: An estimated 570,000 UK women live with and beyond the treatment of breast cancer, which is set to exceed 1.6 million by 2040. Current surveillance pathways will not meet the additional demand. The National Cancer Survivorship Initiative recommend supported self-management (SSM) systems to alleviate service pressures, reallocate resources efficiently, and empower patients. We began a SSM surveillance programme via an online portal in November 2016. Our study aims to explore the patient perspective of our new service.

Method: Survey responses between two patient groups were compared, SSM patients and those with traditional annual clinic follow-up (FU). We used a Likert item and free text survey.

Results: Survey responses for 60 traditional FU patients (response rate 96.7%) were compared to 223 responses from the SSM programme (response rate 64%).

	SSMFU (%)	Clinic FU (%)	p-value
Understand surveillance protocol	97.8	96.7	0.90
Concerns addressed	94.2	100.0	0.50
Contactable	98.2	96.7	1.00
Understanding signs of recurrence	97.8	93.3	0.47

Conclusions: Our results demonstrate the SSM programme is comparable to traditional FU with regards to patient education, addressing concerns, understanding the surveillance programme and how to make contact. Incidentally we found 66% (n= 40) of traditional FU patients would wait until their next appointment to raise concerns, supporting anecdotal experience of cases where diagnosis of recurrence was delayed. GP concerns of increased workload were unfounded with patients contacting the portal directly. Fifty required clinical review with one diagnosis of recurrence. Anecdotally fewer ultrasound requests alleviated the burden on radiology services.

P134. ADEQUACY OF POST-OPERATIVE ANALGESIA FOLLOWING DAY CASE BREAST SURGERY

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Introduction: Adequate post-operative analgesia is an important aspect of day case breast surgery patient care to prevent patient suffering and re-attendance following discharge.

Methods: Patients were contacted to provide a pain score using the verbal rating scale (VRS) on post-operative days 1-3 (0 = no pain, 10 = severe pain), and to provide details of their analgesia use. Patient records were accessed to establish if there was discrepancy between the analgesia prescribed and that taken by the patient.

The audit standards used were from The Royal College of Anaesthetists' audit recipe book:

1. 100% patients discharged with written and oral instructions regarding pain relief
2. <5% reporting 'severe' pain on verbal pain score in the first 48 hours after discharge
3. >85% reporting 'none' or 'mild' pain in the first 48 hours after discharge

Results: All patients (n=37) were discharged with written instructions explaining analgesia, and 68% (n=25) were also given oral instructions. Severe pain (7-10) was experienced by 21% (n=8) of patients surveyed, 75% of whom (n=6) failed to take the provided analgesia regularly as prescribed. No pain or mild pain (0-3) was reported by 41% (n=15) of respondents.

Conclusion: There is a need to educate patients about the importance of regular analgesia. A patient information sheet explaining this in lay terms will be given to patients in addition to the discharge letter, and nursing staff will be asked to encourage adherence when giving patients their medications on discharge. Re-audit following the implementation of these measures is recommended.

P135. SYMPTOMATIC BREAST CLINIC PATIENTS VALUE PROVISION OF A DETAILED CORE BIOPSY LEAFLET PRIOR TO ATTENDING CLINIC

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Introduction: Informed consent is part of shared decision-making and has important ethical considerations when undertaking invasive procedures such as core biopsy of the breast. There is increasing obligation to provide detailed information to patients. However, not all patients may wish such information.

Our aim was to evaluate the effect of providing detailed information about breast core biopsy, prior to symptomatic clinic appointment, on patient experiences.

Methods: A detailed core biopsy information leaflet was developed and included alongside the standard symptomatic clinic appointment letter. Following the intervention, patients were surveyed to evaluate impact of detailed information on their clinic experience.

Data was collected prospectively and divided into two phases: phase one surveyed patients who had a biopsy and received the standard letter clinic appointment letter only (group A). Phase two surveyed patients who received the biopsy leaflet plus standard letter, divided into two subgroups: those who underwent breast biopsy (group B) and those who did not (group C).

Results: Only 40% (n=14) of group A thought an information leaflet included with their appointment letter would be helpful. However, 100% (n=51) of group B and 96% (n= 48) of group C felt it was helpful to have information about breast biopsy prior to attending clinic.

Conclusion: Almost all patients found it helpful to have detailed information included with their appointment letter, regardless of whether they actually went on to have a biopsy or not. Despite initial concerns that too much information would heighten anxiety, this has not resulted in negative experiences.

P136. DOES COMPLETE RADIOLOGICAL RESPONSE CORRELATE WITH A COMPLETE PATHOLOGICAL RESPONSE FOLLOWING NEOADJUVANT CHEMOTHERAPY?

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Background: Neoadjuvant chemotherapy (NAC) is increasingly used to downstage cancers or for dual anti Her2 treatment prior to surgery. Response to NAC is monitored by imaging prior to and at completion of NAC, most commonly with magnetic resonance imaging (MRI). We assessed correlation of complete radiological and complete pathological response.
Methods: Retrospective data analysis from two breast screening institutions of all patients undergoing neoadjuvant chemotherapy from May 2014 to November 2017. All patients had MRI prior to and at completion of NAC. Results were excluded if they had missing data.
Results: 158 patients were studied. Results are shown in the table below.

Table 1
Comparison of complete and partial response in Pathology and Radiology, n(%)

Table 1	Complete radiological response (rCR)	Partial radiological response (rPR)	Total
Complete pathological response (pCR)	34	22	56 (35)
Partial pathological response (pPR)	20	82	102 (65)
Total	54 (34)	104 (66)	158

63% of cases with a rCR also had a pCR (34/54). Conversely, 39% of pCR patients (22/56) only had partial radiological resolution.
Conclusion: The positive predictive value of MRI in this series was 61% in predicting complete pathological response, overall accuracy of MRI was 73%. However, imaging did not correlate with pCR in a significant number of cases. This should be considered when planning surgery following NAC.

P137. A RETROSPECTIVE ANALYSIS OF PLEOMORPHIC LOBULAR CARCINOMA IN SITU

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Introduction: Pleomorphic lobular carcinoma in situ (PLCIS) is a relatively newly described pathological lesion. This lesion is uncommon and its appropriate management is yet undetermined. A survey of the US practice showed no consensus on its surgical management, while in the UK it appears that most will manage it as per Ductal Carcinoma in Situ with complete surgical excision with/without radiotherapy. We present a retrospective analysis and our experience with PLCIS from King's College Hospital.
Methods: We analysed the available database for all reported cases of PLCIS from the year 2000. We identified 24 patients with reported PLCIS in histology with one patient having it bilaterally and was evaluated as two different cases bringing the count to 25.
Results: In our study we found that of the 25 cases with PLCIS, 19 had an associated invasive cancer. 18 had an associated invasive lobular/invasive pleomorphic lobular carcinoma. The invasive tumours were all found to be Grade 2/3. Most were Estrogen receptor positive and Her2 receptor negative. The average age of patients was 60. More cases of PLCIS are diagnosed in the recent times due to improved knowledge of this entity.
Conclusions: PLCIS, although an in-situ disease, may need to be treated more aggressively with an expectation of finding an invasive cancer or as a precursor to invasive disease. A multicentric study with long term follow-up of patients with exclusive PLCIS without any invasive component may help shed light on the natural disease progression of PLCIS.

P138. CAN TUMOUR INFILTRATING LYMPHOCYTES (TILS) PREDICT THE RESPONSE OF NEOADJUVANT CHEMOTHERAPY IN TRIPLE NEGATIVE BREAST CANCER?

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Triple negative breast cancer (TNBC) is a heterogeneous group of tumours associated with poor prognosis. Neoadjuvant chemotherapy (NACT) is recommended for stage 2/3 and some stage 1 disease. However, only 30-35% of TNBCs achieve pathological complete response (pCR). Tumour-infiltrating lymphocytes (TIL) have been proposed as an independent prognostic marker for TNBCs. The aim of our study was to examine if TIL can predict response to NACT.
Methods: TNBC patients who had NACT between January 2013 and March 2017 were identified retrospectively. TILs levels were evaluated in core biopsy and post-NACT excision sections as per recommendations by International TILs Working Group 2014. Stromal TILs were categorised as low(<10%), intermediate(10-50%) and high(>50%) in pre and post therapy slides. Primary end point was to assess pathologic response to NACT.
Results: 156 patients had TNBC. 21(13%) patients had neoadjuvant chemotherapy. Mean age at diagnosis was 50 years. 8(38%) had low, 10(48%) intermediate and 3(14%) had high level of stromal TILs on core biopsy. Of patients with <10% TILs, 1(13%) showed pCR, 6(75%) had partial and 1(13%) showed no response to NACT. Patients with 10-50%TILs, 1(10%) achieved pCR, 7(70%) showed partial and 2(20%) had no response. Patients who had >50% TILs at diagnosis, 2(67%) achieved partial response and 1(33%) no response.
Conclusion: TNBC patients with low and intermediate levels of TILs showed very identical response to NACT. TILs >50% showed a poorer response overall. The numbers in our groups are very small to reach a definite conclusion and more extensive inter-hospital study is to be planned.

P139. AN AUDIT OF THE MANAGEMENT OF BREAST CANCER IN WOMEN AGED LESS THAN 40 AGAINST BCY3 GUIDELINES IN A TERTIARY BREAST UNIT

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Introduction: The 3rd International Consensus Conference for Breast Cancer in Young Women (BCY3) issued guidelines (November 2016) for the management of women under 40 years old. We audited our practice against these standards.
Methods: Ladies diagnosed with breast cancer aged under 40, during 2016, were identified from MDT records. Data on management were obtained retrospectively from electronic and paper records. Management was audited against BCY3 guidelines.
Results: In 2016, 49 patients at our unit were diagnosed with breast cancer under the age of 40 (age range 22-39 years). At diagnosis, clinical findings were often subtle, with 64% (25/39 with a documented P score) being either P1 or P2. Routine MRI is not advocated in BCY3 guidelines but MRI was performed preoperatively in 55% of women (27/49), of whom 11 (41%) were found to have a larger tumour/multifocal disease not identified on other imaging modalities. 53% (26/49) had neoadjuvant chemotherapy (18 ER-ve; 8 ER>3 of these 6/8 were HER2+ve). Local guidelines for genetics and fertility counselling differ from BCY3, therefore the standard that all women should be referred to both services was not met. 63% of ladies underwent mastectomy (31/49) with a high-proportion (35% 11/31) electing not to have immediate reconstruction following documented discussion.
Conclusions: Management of young-women with breast cancer generally adhered to BCY3 guidelines. Clinical findings were often subtle and pre-operative MRI led to the detection of more multifocal/larger tumours than standard imaging modalities, and should be considered if pre-op uncertainty over sizing.

P140. TO STAGE OR NOT TO STAGE BEFORE NEOADJUVANT CHEMOTHERAPY?

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Introduction: Staging investigations are recommended for patients with locally advanced breast cancers. There are no standard guidelines for staging patients receiving neoadjuvant chemotherapy. In our unit, all patients offered neoadjuvant chemotherapy undergo staging CT scans. The

aim of this study was to assess the impact of staging scans on patient management.
Methods: Retrospective identification of all patients who were offered neoadjuvant chemotherapy from January 2015 to September 2018. Data on the tumour size, nodal status, tumour biology, CT and further investigations following staging scans were recorded. Patients with symptoms suspicious of metastatic disease were excluded.
Results: One hundred and eighty four patients with a mean age of 54.6 years were included. Fifty five percent of patients were triple negative, 24% ER negative HER 2 positive, 16% ER positive, HER 2 positive and 5% ER positive HER 2 negative. None of the 39 patients with T1N0 and T1N1 disease had distant metastases. Distant metastases were found in 9% with T2 and 25% with T3 disease. Twenty four percent of patients needed further imaging after the initial staging scan. Overall 12% of patients had distant disease.
Conclusion: Staging investigations are not indicated in asymptomatic patients with T1 disease irrespective of their nodal status and tumour biology.

P141. FURTHER INVESTIGATIONS DURING FOLLOW UP OF BREAST CANCER PATIENTS TREATED WITH CURATIVE INTENT

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Background: Gold standard for follow up care in primarily treated breast cancer patients includes clinical examination and mammographic surveillance. However, some patients undergo additional investigations during their follow up period based on new symptoms and clinic findings. These interventions have an impact on patient experience, resources and costs and in some cases, unnecessary radiation exposure to the patient. We audited a sample of our patients to assess the extent of these investigations in our breast unit.
Methods: A retrospective audit of 150 follow up patients treated for breast cancer with curative intent in 2015 was done and data including patient demographics, treatment and follow up investigations were obtained from the Somerset database and electronic patient records.
Results: Out of 150 patients, 34 (23%) patients had additional imaging investigations with 14 (42%) having ultrasound scans, 14 (42%) having extended CT scans, 8 (24%) having MRI scans and 4 (12%) having bone scans. A majority of investigations was ordered for symptom of pain. In the whole group, only one bone metastasis was detected, while 6% had benign findings. Out of these investigations 38% was requested by the oncologist, 11% by breast surgeons and 26% by other specialities.
Conclusion: Additional investigations during follow up have poor yields and cost and resource implications. A further audit with larger patient group and cost analysis is required to influence standard practice.

P142. POSTOPERATIVE WOUND COMPLICATIONS AFTER IMMEDIATE BREAST RECONSTRUCTION INCREASE RECURRENCE RATE IN ER NEGATIVE PATIENTS

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Introduction: Postoperative complications may affect oncological outcomes after breast cancer surgery due to possible cross-talk between the pro-inflammatory and carcinogenic signaling pathways. Hence, we investigated whether post-operative wound complications following mastectomy and immediate reconstruction (M+IR) were associated with oncological outcomes.
Methods: Patients who underwent M+IR for primary breast cancer between January 2008 and December 2012 in Canniesburn plastic surgical unit were included. Reconstruction type, pathological and complication details, and oncological outcomes were obtained retrospectively. Kaplan Meier and Cox regression survival analyses were carried out for recurrence and cancer specific death.
Results: Altogether 578 patients had M+IR during the study period. Of those 108 had ER negative, 386 had ER positive breast cancer, and 84 had DCIS. Median age was 51 years (27-80). 428 (74%) reconstructions were autologous, 27 (4.7%) were autologous with implant, and 123 (21.3%) were implant only. Median follow up was 66 months (3-109). There were 85 (14.7%) recurrences and 45 (7.8%) cancer deaths. There were no significant differences in patients' demographics or tumour characteristics in between patients with or without complications. In ER negative disease (n=108; 33 (30.5%) complications) presence of a wound complication was associated with increased recurrence (HR 2.38, 95%CI 1.13-4.98, p=0.022). Conversely, in ER positive disease (n=386; 136 (35.2%) complications), wound complication did not increase recurrence rate after M+IR (HR 1.12, 95%CI 0.63-1.99, p=0.703).
Conclusion: Postoperative wound complication after M+IR may have a different impact on breast cancer recurrence in ER negative versus ER positive disease.

P143. IMMUNE MICROENVIRONMENT AS A PROGNOSTIC MARKER OF RECURRENCE FOLLOWING BREAST CONSERVING SURGERY FOR DCIS

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Introduction: The progression from ductal carcinoma in-situ (DCIS) to invasive disease remains poorly understood. Various biological processes have been considered, including the role of tumour infiltrating lymphocytes (TILs).
Methods: High-resolution APERIO digital histology slides were reviewed from a cohort of 423 patients with DCIS, with no microinvasion, treated with breast conserving surgery (BCS). Stromal TILs were assessed manually using digital images, applying the International Working Group Recommendations for TILs assessment. Inter-observer variation was assessed.
Results: The mean follow-up period in this cohort was 119 months (5.97 – 262.93). There were 109/423 patients with recurrence or contralateral disease on follow-up; 90 (82.6%) ipsilateral recurrence and 19 (17.4%) contralateral breast disease. Whilst 51 (46.8%) were DCIS recurrences, 53 (48.6%) were IDC recurrences, and 5 (4.6%) were ILC.
There was an 'excellent' inter-observer agreement in scoring of TILS, with intra-class coefficient of 0.831. There was no statistically significant difference in ipsilateral recurrence based on TILs density (p=0.591). On categorising TILs density as sparse (≤5%) or dense (>5%), there was a non-significant trend towards increased ipsilateral recurrence with dense TILs (19.7% vs 23.2%, p=0.226), particularly evident in low-grade DCIS (15.9% vs 27.3%, p=0.315), and not influenced by radiotherapy (8.3% vs 9.5%, p=0.565).
Conclusion: Little is known about the immune milieu of DCIS or the evolution of the anti-tumour immune response during the progression from DCIS to invasive disease. In this study, no significant association was found between stromal TILs density and recurrence. Future work aims to determine associations between TILs sub-types in DCIS and recurrence.

P144. FACTORS ASSOCIATED WITH BREAST CANCER RECURRENCE IN A DISTRICT GENERAL HOSPITAL

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Introduction: Breast cancer recurrence is a rare but serious outcome following curative surgery. Risk scoring systems can provide an inexpensive and accessible way to identify at-risk patients but had not been validated within our local population.
Methods: We performed retrospective service evaluation to determine whether commonly referenced risk factors were associated with breast cancer recurrence at Bedford Hospital. Permission was obtained from the

Bedford Hospital Audit Committee. Patients who underwent surgical management between 2003 and 2013 were identified from Somerset Integrated Digital electronic Records (SIDeR). Controls were randomly selected on a 4:1 ratio. Factors classically associated with breast cancer recurrence were collected from case records; these included age, grade, size of tumour, invasion status and choice of adjuvant therapy. Medcalc Version 18.11 was used to perform multiple regression analysis.
Results: A total of 2537 patients were surgically treated for breast cancer with 56 patients presenting with recurrence within 5 years of surgery. Diameter of tumour was associated with increased risk of recurrence (Beta= 0.002, p=0.013). Treatment with radiotherapy (Beta= -0.287, p<0.0001) and invasion status (Beta= -0.778, p<0.0001) were associated with a reduced risk of recurrence.
Conclusion: Whilst associations of tumour size and radiotherapy treatment are concurrent with the literature, a reduced risk of recurrence in invasive cases has not previously been identified. Our study provides a preliminary insight into a pragmatically analysed, local data set. Further analysis of the treatment protocol for patients with non-invasive cancer is warranted.

P145. PONDX BREAST CANCER RECURRENCE SCORE: A SIGNIFICANT ADJUNCT TO STANDARD PARAMETERS AND ITS ROLE IN REDUCING THE UPTAKE OF CHEMOTHERAPY. A SINGLE CENTRE EXPERIENCE

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Introduction: The National Institute of Clinical Excellence (NICE) currently recommends using the 21-gene Oncotype DX assay to help guide decisions about chemotherapy (CT) after surgery in some patients with lymph node negative early breast cancer. There is growing evidence to suggest that the test may also provide useful guidance in patients with limited nodal involvement. This study looked at our institution's experience.
Methods: Retrospective analysis of all data submitted for Oncotype DX testing in node positive patients by Great Western Hospital up to August 2018.
Results: Twenty patients from Great Western Hospital underwent Oncotype DX testing as part of the PONDX trial. Twelve patients had a recurrence score of <18, four patients had recurrence scores in the range 18-30 and only four patients had recurrence scores of >30. Our Breast Multidisciplinary Team (MDT) had recommended both chemotherapy (CT) and Hormone Therapy (HT) for all twenty patients prior to Oncotype DX testing. In view of individual test results, the MDT revised their recommendations to HT treatment only in fourteen cases. When patients were given the opportunity to discuss their results and recommendations only five patients ultimately decided to undertake both CT and HT.
Conclusions: The PONDx recurrence score provides critical information over the standard clinical and pathological parameters used to determine CT treatment in node positive patients. Chemotherapy was avoided in 75% of patients after which future analysis aims to quantify the expected cost savings and reduction in patient morbidity.

P146. STUDY OF BREAST CANCER PRESENTATION AND TRIPLE NEGATIVE STATUS IN BANGLADESHI WOMEN RESIDENT IN THE UK COMPARED TO THOSE LIVING IN BANGLADESH

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Introduction: There are significant differences in breast cancer affecting women in Bangladesh and in the United Kingdom (UK). For women in Bangladesh, age at diagnosis is a decade earlier, on average, and reported rates of triple negative breast cancer are as high as 27% compared to 15% in the UK. It is unclear to what extent environmental, genetic, and social factors underlie these differences. This study aimed to assess whether country of residence had an effect on breast tumour characteristics among women of Bangladeshi ethnic origin.
Methods: A cohort of British-Bangladeshi patients diagnosed at Barts Health NHS Trust (n=179), and a cohort of Bangladeshi patients diagnosed at a single centre in Bangladesh (n=48) were identified. Patient medical records were retrospectively reviewed for data on age at diagnosis and triple receptor status. A two-tailed t test was used to analyse differences in age at diagnosis. A chi-squared test was used to analyse differences in rates of triple negative breast cancer.
Results: Mean age at diagnosis for all breast cancers was higher in the British-Bangladeshi cohort compared to native Bangladeshis (50.98 vs. 44.80; p<0.001). Mean age at diagnosis for triple negative cancer, however, was similar (46.00 vs. 46.18; p=0.95). Percentage of triple negative disease was lower in the British-Bangladeshi cohort (17.5% vs. 30.6%; X^2=0.047).
Conclusions: Triple negative cancer rates among British-Bangladeshis closely approximate reported rates in the UK. This suggests that environmental and lifestyle factors may be of greater importance in driving the higher rates of triple negative breast cancer seen in Bangladesh.

P147. BODY COMPOSITION AND CHEMOTHERAPY TOXICITIES – THE BEGIN STUDY

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Introduction: Weight gain is common during breast cancer treatment and associated with poorer outcomes. Obese/overweight patients also exhibit poorer outcomes. BMI (weight-standardised for height (kg/m^2)) is commonly used to describe body habitus. However, parameters such as fat mass index (FMI: kg fat mass/m^2) and fat free mass index for lean muscle (FFMI) provide greater understanding of body composition changes and may yield additional prognostic information compared to BMI alone since patients may lose muscle and gain fat whilst maintaining BMI.
Methods: Data was collated for the first 174 patients recruited into the BeGIN study (REC 10/H0308/48). Body composition measurements were obtained using a SECA mBCA515 bioelectrical impedance spectroscopy analyser.
Results: At an individual level, there was a range in FMI for any BMI despite overall correlation at population level between BMI and FMI. Patients >50y were more likely to have a greater BMI and FMI than those ≤50y. Compared to baseline, FMI increased at one year, but BMI was unchanged (p=0.04). Fewer patients received standard anthracycline-taxane sequential chemotherapy as FMI increased, but a greater proportion experienced grade 3 chemo-toxicity.
Conclusions: Between baseline and one year, changes in body composition were more evident for FMI than BMI. Patients in the highest FMI tertiles were less likely to receive standard anthracycline-taxane sequential chemotherapy, but more likely to experience chemo-toxicity. Understanding body composition and its changes may offer additional information to BMI alone and predict clinical outcomes including chemotherapy toxicity. This will be prospectively assessed in the Cando3 WCRF funded study.

P148. APPLICATION OF NEO-BIOSCORE TO PREDICT SURVIVAL IN BREAST CANCER PATIENTS RECEIVING NEOADJUVANT CHEMOTHERAPY

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Purpose: Neoadjuvant chemotherapy has traditionally been used for locally-advanced breast cancer and to facilitate breast-conserving-therapy. Several studies have shown an association between pathological complete response (pCR) and improved overall survival. However, in patients who don't achieve pCR, their survival has not been addressed with a great degree of specificity. Neo-Biocsore is one of the ways to evaluate prognosis after neoadjuvant therapy, utilizing the clinical and pathological variables. The aim of this study was to assess the application of Neo-Bioscore in a UK cohort of breast cancer patients receiving neoadjuvant chemotherapy.
Patients and Methods: Charts of breast cancer patients treated with neoadjuvant chemotherapy from 2009 to 2013 were reviewed for clinical and pathological tumour characteristics, treatment and patient outcomes. Complete data was available for 76 patients. Survival predicted by clinical

stage, pathological stage and Neo-Bioscore was calculated using the Kaplan-Meier method, (significance set at $P < .05$). All calculations were performed with SPSS version-19.
Results: Median follow-up was 53 months (range, 11-101months). Five-year disease-specific survival rate was 89% for patients who achieved a pathological complete response (n =14) compared with 46% for patients who did not achieve a pCR (n = 61; $P = 0.05$). 5-year disease-specific survival estimates ranged from 33% to 100% ($P = 0.000$) for Neo-Bioscore vs. 50% to 87% ($P = 0.405$) for presenting clinical stage, 10% to 89% ($P = 0.00$) for pathological stage.
Conclusion: Neo-Bioscore based on clinical stage, response to therapy, and biologic sub-type best defines prognosis for breast cancer patients treated with neoadjuvant chemotherapy.

P149. THE ONE-STOP CLINIC IS AN OPPORTUNITY TO ASSESS BREAST CANCER RISK AND OFFER ADVICE TARGETING MODIFIABLE RISK FACTORS

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Introduction: Breast cancer causes more deaths than any other medical condition in women aged 30-50 years. Up to one third are preventable (CRUK data), yet many women are unaware of the modifiable risk factors. We investigated breast cancer risk in the one-stop-clinic population.
Methods: Retrospective data collection via electronic records over 25 consecutive working days in August – September 2018. Tyrer-Cuzick risk was calculated. The population was divided into four categories by 10-year breast cancer risk; less than Population (<2% 10-year risk), Population, Medium, and High.
Results: 311 patients had data available (16 were excluded as aged >75 so could not use Tyrer-Cuzick). Mean age was 46. 4% were at high risk (>8% at 10 years), 32% were at moderate risk (>3-8% at 10 years), 21% were at population risk (2-3% risk at 10 years), and 43% were at low risk (<2% at 10 years).
Conclusions: Performing Tyrer-Cuzick on a one stop population reveals a substantial proportion of high and moderate risk women. Family history clinics are well established in the UK but a risk prediction model encompassing other variables and modifiable risk factors is likely to identify additional women at increased risk. These women can be offered screening or prophylaxis from a younger age. Individualised risk assessment can be harnessed to motivate women to address their personal modifiable risk factor. This represents an ideal opportunity to broach topics such as weight control, activity, diet and alcohol intake which are at the heart of many public health campaigns.

P150. DIRECT-TO-IMPLANT, PREPECTORAL BREAST RECONSTRUCTION: A SINGLE INSTITUTION EXPERIENCE

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Introduction: Prepectoral, acellular biological matrix (ABM)-assisted, implant-based breast reconstruction (IBBR) is gaining popularity. We report our preliminary institutional outcomes.
Method: Retrospective, single-institution, cohort study of patients undergoing single-stage, prepectoral IBBR from 01/2016 to 11/2018. Conversions from previous subpectoral IBBR were excluded. The primary outcome measure was complication rates. Descriptive statistics and non-parametric analyses were performed.
Results: 136 patients underwent 202 reconstructions (87 therapeutic/115 risk-reducing). The median age was 44 (26-72) years, median BMI was 22.7 (17.2-36.1) and the median length of hospital stay was 1 day. 16 (11.8%) patients had previous breast surgery with 4 also having previous radiotherapy. Adjuvant radiotherapy was administered in 23 (16.9%) patients. The median implant volume was 420 (115-620) cc. Sheet Surgimend® (n=85) was the most frequently used ABM, followed by meshed Surgimend® (n=77), Meso Biomatrix® (n=27) and Braxon® (n=13).
At a median follow-up of 6 months, 61 (30.2%) mastectomies were associated with at least one complication. These included skin-flap necrosis (n=15, 7.4%), nipple necrosis (n=12, 5.9%), haematoma (n=9, 4.5%), infection (n=6, 3%) and capsular contracture (n=8, 4%). Reoperation for complications was required in 28 (13.9%) patients, with removal of implant in 9 (4.5%) cases. On univariate analysis, age (p=0.036), implant size (p=0.003), adjuvant radiotherapy (p=0.026) and incision type (p=0.006) were associated with increased complications rates. Multivariate analysis did not confirm any associations.
Conclusion: The results of this study reflect those of current literature. We anticipate participating in the national collaborative study iBra-NET, to produce meaningful data with longer-term oncological, aesthetic and safety outcomes.

P151. DOES PRE-PECTORAL RECONSTRUCTION (P-PR) REDUCE EARLY POST-OPERATIVE (P-OP) AND LATE NEUROPATHIC PAIN (NP)?

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Introduction: Pain following surgery affects 25-60% of patients. P-PR potentially reduces P-OP. We aimed to determine if we could demonstrate reduction in early P-OP and late NP.
Method: Sixty-four consecutive patients undergoing immediate reconstruction participated. All sub-pectoral reconstructions (S-PR) had continuous wound infusion catheters (CWIC), the first eighteen P-PR had CWIC, and twelve had local anaesthetic via the drain only. P-PR was with Surgimed-PRS.
Patient demographics, oncological and operative data were recorded. The VAS and analgesia requirements were recorded. The LANSS was completed pre-operatively and 6 months following surgery.
Results: No difference was demonstrated for age, ANC, post-operative radiotherapy, pre-operative pain or implant size (p=0.794, p=0.811, p=0.842, p=0.712, p=0.559). From 6 hours P-OP scores were lower in the P-PR group table 1. Analgesia requirements reflected pain scores. P-PR patients without CWIC initially required more paracetamol than those with CWIC (p=0.071).

Table 1
p-value for the T-test comparing VAS pain scores.

Time post-operatively (hours)	p-value
6	0.042
12	0.022
24	0.024
48	0.031
7 days	0.039

Scoring ≥12 on LANSS indicates likely neuropathic pain element. At 6 months, eight in the S-PR and four in the P-PR scored ≥12 (Chi-Square Test p=0.039). No difference between P-PR CWIC and non-CWIC was identified.
Conclusions: P-PR, even without CWIC, offers potential benefits of reducing P-OP and NP. P-PR patients with NP demonstrated specific point tenderness, predominantly laterally at suture sites. S-PR patient's pain was less well defined. Pain management is multifactorial. P-PR offers the potential of reducing early P-OP and improving longer term function.

P152. A DGH'S EXPERIENCE USING MAGSEED AS A LOCALISATION TOOL FOR IMPALPABLE BREAST LESIONS

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Introduction: Breast cancer is the third most common cancer worldwide. Current techniques for localising breast lesions include Hookwire and radio-occult lesion localisation (ROLL).
Magseed is a new innovative localisation device available in the UK. It is a

5mm steel marker radiologically placed up to 30 days prior to excision. The Sentimag probe locates the marker by emanating exponential magnetic signals to indicate proximity to tumour.
Aim: To evaluate the efficacy of the Magseed technique in comparison to current Hookwire techniques in a DGH for removal of non-palpable breast lesions.
Method: Magseed data was collated from February to November 2018. Re-excision rates were compared with both the national average and our DGH's own statistics using the standard Hookwire localisation technique.
Results: See table 1.

Conclusions: Our data agrees with current research, that smokers have worse outcomes. MDT consultation provides written information and thorough discussion by surgeons and breast care nurses but recorded with variability. Findings indicate broad adherence to guidance. The outcome for smokers raises questions about offering them lipomodelling and emphasises the need for smoking cessation advice in breast surgery units.

Table 1

Measured Outcomes:						
Number of Magseed Patients	47 patients, 6 re-excisions					12.8%
Age	33-80					64
BMI	21-43.8					29
Operative Time (minutes)	9-42					22
Grade	13 G1, 22 G2, 8 G3, 4 unknown					G2
Size (mm)	5-22.5					12.6
Lymph node involvement	7/47					14.8%
Complications:	2 wound infections, 1 haematoma, 1 Magseed deployed incorrectly					8.5%
Technique	Total (N=)	Number Re-excised	Absolute Risk	Relative Risk Reduction	Number Needed to Treat	P Value
Hookwire Localisation	173	34	0.197	0.350	14.5	P Value: 0.282
Magseed Localisation	47	6	0.128			Not significant ($p < 0.05$)

Conclusion: Magseed effectively replaced Hookwire localisation in our DGH. It reduced excision time from 45 minutes on average using Hookwire, to 22 minutes using Magseed. Re-excision rates dropped from 19.7% (hookwire) to 12.8%, with a relative risk reduction of 35%, comparing favourably to the national average re-excision rate of 20%.
Magseed has improved patient experience, increased daycase bed usage and reduced re-excision rates. A cost analysis is currently ongoing.

P153. LIPOMODELLING AT CHESTERFIELD ROYAL HOSPITAL: SERVICE REVIEW IN A DISTRICT GENERAL HOSPITAL USING LIPOMODELLING GUIDELINES FOR BREAST SURGERY (2012)

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Introduction: After the introduction of lipomodelling, a useful tool in the breast surgeon's armoury, in 2015 a service evaluation was undertaken using the joint Lipomodelling Guidelines for Breast Surgery (2012).
Methods: Theatre diaries, 2015 to 2017, were used to identify patients who underwent lipomodelling. Patient's complete hospital records were reviewed.
Results: 61 of 70 patients' data was available for review. Median age 53yrs (range20-76). 55(90%) underwent the procedure for cancer; 5(8%) for risk reduction; and 1(1.6%) for cosmesis. 24(39%) received written information. The median number of procedures was 2(range1-4). Younger patients underwent more procedures. (<39yrs: 2.8; >60yrs:1.4). 53(87%) noted some improvement; 37(61%) significant improvement. 34(55.7%) had no complications described in the guideline; there was 1(1.6%) infection and 9(15%) experienced post-operative pain. Smokers 9(15%) needed more procedures than non-smokers (2.7 vs 1.8) and had less significant improvements (55.6% vs 68.2%). Smokers had more fat harvested (358mls vs 229mls) and more fat used (219mls:61.9% vs 142mls:60.3%). Patients with significant improvements had a larger fat volume harvested (255mls) and larger proportion used (174mls:63.6%). No local recurrence was recorded. Small group numbers limited statistical analysis.

P154. INCIDENCE OF BLUE DYE ASSOCIATED ANAPHYLAXIS IN SENTINEL LYMPH NODE BIOPSY

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Introduction: A combined technique, with radioisotope and Patent Blue V, is the gold standard for lymph node detection in sentinel biopsy. Increasingly, there has been reluctance to use blue dye, owing to a fear of complications, namely anaphylaxis. What is noteworthy, however, is that patients who undergo a general anaesthetic are often exposed to a myriad of drugs given sequentially and this makes diagnostic certainty in cases of anaphylaxis a challenge.
Methods: In this study, the incidence of anaphylaxis among patients who underwent a biopsy using the dual technique over the preceding 5 years at our centre was evaluated. Local approval was obtained and data was collected from the patient administration system which is made robust by a dedicated team of clinical coders. Allergy testing was requested in each case of anaphylaxis to elucidate the causative agent.
Results: Our findings demonstrated a total of 5 cases of anaphylaxis among the 1311 procedures that were performed in this period. Follow up of these patients revealed that only one successfully underwent allergy testing. This patient was found not to be allergic to the blue dye and further testing revealed the culprit to be the antibiotic teicoplanin, given peri-operatively.
Conclusions: We conclude that individual cases of anaphylaxis should be judiciously scrutinised so as to prevent a presumption of blue dye related anaphylaxis. Indeed, the incidence of allergic reactions to dye has been reported to be as low as 0.07%. Current practice should therefore continue to employ a combined approach to improve detection rates.

P155. "MEDIAL WING HEMI-MASTOPEXY": AN INNOVATION TO AVOID MEDIAL POLE EMPTINESS IN REDUCTION MAMMAPLASTY

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Introduction: In heavier breasts, there is a greater lower outer parenchymal distraction resulting in relative emptiness medially. The default excision of the horizontal-V medial wing parenchyma in wise-pattern or vertical mammaplasty may either maintain or worsen this emptiness. We present a technical innovation to avoid such loss of volume.
Methods: Mammaplasty markings are as standard/practiced. However, instead of being excised, the medial wing is de-epithelised, inverted, and the horizontal limbs of the V sutured along de-epithelised edges. A retrospective analysis of single-surgeon (AA) cases in prospectively maintained database was performed.
Results: Of the 15 patients (23 breasts) with a mean age of 48.01(43–79) years and BMI of 33.6(19.7-43.6), 16 underwent Therapeutic Mammaplasty (TM) in cancer and 7 symmetrizing reductions. Mean reduction/excision weight, length of stay and follow-up were 188.57(36-598) g., 1.2(0-2) days and 20(2-40) months respectively. 2(8.7%) mammaplasty had wound related problems: one nipple sinus with fat necrosis (TM in smoker) and other T-junction minor dehiscence with cellulitis. There were no re-admission or re-operation within 30 days.
Conclusions: This technical innovation has no increased direct technique-related complications including following radiotherapy compared to UK national TM (TeAM) audit (23.3% overall complications, 1.4% re-admission and 2.8% returned to theatre within 30 days). In addition, it retains the dermal vascularity along the medial half of the wound. Although, this will not be applicable in lower inner quadrant tumours in TM, it could be applied to other quadrant tumours as well as in a cosmetic setting.

P156. ANALYSIS OF PATIENT ANXIETY RELATED TO MAGSEED AND GUIDE-WIRE LOCALISATION TECHNIQUES

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Introduction: The mental health burden amongst woman with breast cancer extends beyond their initial diagnosis throughout the breast cancer journey. 50% of all newly diagnosed cancers are impalpable increasing demand for accurate tumour localisation. Historically achieved by wire localisation on the morning of surgery, new techniques of non-radioactive magnetic (MAG) seed localisation have become available which may be placed up to 30 days in advance of surgery.
Aim: To evaluate patterns of pre-operative anxiety with Magseed and guide-wire localisation in consecutive surgical patients with screen-detected and symptomatic breast lesions.
Methods: Thirty-one consecutive women within the Southern Trust presenting with screening or symptomatic cancers undergoing breast conserving surgery after tumour localisation were enrolled between September and November 2018. With a single measure over time, standardised state-trait anxiety questionnaires were administered with verbal consent. Scale based question analysis were used to determine patterns of association between anxiety related focally to method of localisation.
Results: Thirty-one consecutive patients were enrolled prospectively. 3 patients with incomplete data were excluded from analysis. The population data analysed included 14 wire guided and 14 Mag-seed localisation patients. The population mean age was 64 with a mean interval from seed placement to surgery of 9 days. Scale based average scores for each localisation population were 41 for wire localisation and 36 for Magseed localisation respectively.
Conclusions: Higher scores positively correlated higher anxiety with wire guided localisation. Magseed localisation for non-palpable breast tumours may result in lower patient anxiety pre-operatively when compared to guide wire localisation.

P157. THE USE OF MAGNETIC SEEDS FOR LESION LOCALISATION IN BREAST SURGERY – THE NORTH WALES EXPERIENCE

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Introduction: Breast services across the UK are experiencing unprecedented challenges due to radiology shortages necessitating changes in practice to maximise efficiencies. Impalpable breast lesion localisation has traditionally been performed using wire or ROLL techniques, which require radiologist input on the day of surgery. The Magnetic seed (Magseed®) approach allows greater flexibility in list planning and frees up vital radiology time. We have audited our early experience to ascertain the safety and ease of use for surgeons and radiologists.
Methods: Prospective data collection included method of Magseed® insertion, ease/accuracy of placement, tumour characteristics, post-operative margin involvement and re-excision rates. Surgical resections were carried out using Sentimag ®.
Results: Data were provided by 5 surgeons and 3 radiologists working within Betsi Cadwaladr University Health Board. Since May 2018, 37 Magseed® guided excisions have been performed in 36 patients, average age 62 years. Pre-operative pathology: IDC n=25(68%), DCIS n=8(22%), others n=4(10%). Mean size 13mm (range3-25mm). Radiological Magseed® placement: USS 25, Stereo 5 patients, unknown 7. Ease of placement score:mode=2 ("easy"); accuracy of placement:72% central to lesion, 25% within lesion but not central, 3% at lateral border. Radial margins involved in 8 (22%) cases. Pre-operative underestimation of disease volume was relevant in all of these cases.
Conclusions: Radiological guided placement of Magseed® is technically easy and accurate in the majority of cases. Magseed® guided excision of impalpable breast lesions is safe with comparable re-excision rates to those published for wire guided procedures. Patient Reported Outcomes will be collected in our unit.

P158. PEDICLED PERFORATOR FLAP – A DISTRICT GENERAL HOSPITAL'S EXPERIENCE

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Introduction: Local flap volume replacement techniques may be used in patients undergoing breast conservation surgery, in whom volume displacement techniques and therapeutic mammoplasty are inappropriate. In these cases, defects of up to 150g can be adequately filled by mobilising pedicled intercostal artery perforator flaps. Here, we review our results since introducing a local flap service in a high-volume breast screening unit 22 months ago.
Method: Hospital coding records for "perforator flap" were searched and cross-referenced with patient notes. Data recorded included age, BMI, smoking status, tumour size, type of flap, complications and any further surgery or delays to adjuvant treatment.
Results: A total of 19 patients were included in the study. The median age was 56, the average BMI was 27.5. 16% were smokers. 89% (n=17) of flaps were performed in the immediate setting. The average tumour size was 38mm (range 17-100mm) and 68% had SLNB. The most common flaps were LICAP (n=9, 47%) and MICAP (n=7, 37%). 52% of procedures were performed as a day case. 74% (n=14) of patients had no complications or further procedures. One patient developed wound breakdown requiring re-operation. Two patients had positive margins requiring completion mastectomy. There were no delays to adjuvant treatment.
Conclusions: The introduction of a local flap volume replacement service, using perforator flaps, has allowed breast conservation surgery with few complications, in patients where tissue displacement techniques or therapeutic mammoplasty would not be appropriate.

P159. MARGIN RE-EXCISION RATES FOLLOWING WIDE LOCAL EXCISION WITH SURGEON-OPERATED INTRAOPERATIVE ULTRASOUND

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Introduction: Positive resection margins following wide local excision for breast cancer is a significant issue often requiring additional surgery and

resources. NICE guidelines recommends consideration of re-excision if margin is less than 2mm. Recent meta-analysis (Koning et al, 2018) quotes 4-23% positive margin rate (PMR) for breast cancer requiring re-excision.
Our aim was to evaluate the usefulness of surgeon operated intraoperative ultrasound in the reduction of PMRs.

Methods: All breast cancer patients at Southend University Hospital undergoing surgeon operated intraoperative ultrasound localisation from July to October 2018 were identified. Patients who had additional methods of localisation such as guide wires and skin markers were excluded.
Demographic and histopathological data including size, grade and type of tumour and closest resection margin were analysed.

Results: 15 patients with mean age of 60.7(45-75) were included in the study. All tumours were T1 (7mm -20mm) with ductal carcinoma being the most common type (65%). Resection margins were less than 5mm in six patients (40%) and 5-10mm in eight patients (53.3%) with one patient having positive margin requiring additional intervention (PMR of 6.7%).

Conclusion: PMR from a previous study in our institution using standard method of localisation with guide wire or skin marker was 19% (n=70). However, the current study shows considerable reduction in re-excision rate (6.7%) highlighting real-time intraoperative ultrasound as a promising method.
Further studies are planned to substantiate our findings and identify potential quality improvements by saving resources, radiology time and reducing patient discomfort.
Audit registered and approved within trust.