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01

TAILORING THE NAC PEDICLE FOR REDUCTION MAMMOPLASTY - INDIVIDUALISING PATIENT CARE AND SAFETY

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Introduction: Therapeutic mammoplasty, (TM) aims to preserve the nipple areolar complex (NAC) on a planned vascularized pedicle facilitating more extensive cancer resection. For tumours located inferiorly, a superior or supero-medial or even lateral NAC pedicle is preferable. Whilst NAC vascularization patterns are documented from cadavers, MRI or CT angiography, we mapped NAC vascularization in patients undergoing TM to allow individual tailoring of the NAC pedicle optimizing mobilization and safety.
Methods: We obtained approval (SE1188) for a prospective feasibility study involving a minimum of 20 bilateral mammoplasties. Following mark-up including NAC pedicle design (non-inferior-based) by the surgeon, mapping by acoustic doppler and colour doppler, imaging was carried out by the independent researcher. Key vessels were marked and surgeons (including trainees) were allowed to modify the NAC pedicle plan. User satisfaction (Likert scale) as well as patient outcomes were assessed.
Results: Of 35 patients (52 breasts) the surgeon found mapping a useful technique for greater flexibility in NAC pedicle mobilization in all cases. In 4 patients, the pedicle was modified from supero-medial to medial due to absence of a superior pedicle. The distances by which the initially planned pedicle was able to be 'back-cut' to facilitate mobilization (between the medial artery and pedicle outline and between superior artery and the lateral pedicle outline) was 25 & 20mm respectively. There was no partial/full loss of NAC in any patients post-operatively.
Conclusions: Pre-operative mapping of the NAC pedicle improves predictability of arterial supply patterns and facilitates surgery including re-reduction performed by trainees and consultants.

02

DEVELOPING AN OPEN-ACCESS KNOWLEDGE EXCHANGE PLATFORM FOR BREAST SURGEONS

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Introduction: Compiling information for best practice and exams is time-consuming. Furthermore, having this on-demand is not always feasible. A group of breast surgery trainees sought to develop a resource that could easily be accessed from a computer or mobile device, and that consolidated all relevant literature. The aim of this survey was to assess the needs for such a resource and inform its design.
Methods: An online survey was sent to current breast trainees and consultants working in the North East, North West and Yorkshire. Oncology trainees in the North East were also canvassed. Questions included demographics; stage of training and qualifications; online resources used; potential gains and needs from a resource and preferred learning methods (visual, auditory, kinaesthetic, note-making).
Results: A total of 33 participants completed the survey: 24 breast surgeons and 9 oncologists. 60% of the respondents were in higher training (ST5-ST7). The most commonly used resources by breast trainees were ABS (87.5%), NICE guidance (75%) and iBreastbook (45.8%). Oncology trainees commonly reported using NICE guidance (77.8%), ESMO (77.8%) and NCCN (55.6%). The majority of the respondents identified as visual learners (N=20, 60.6%). 93.9% of respondents would like to have access to recent papers on the online resource, 90% would like access to consolidated guidance.
Conclusions: Based on the pilot survey results, we have developed an online learning resource (Best of Breast Resource) that addresses these needs. This has been released and is being collaboratively iterated with participants with the aim to release it more widely in the breast community.

03

HOW ACCURATE IS THE CLINICAL COMPONENT OF TRIPLE ASSESSMENT

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Introduction: There are eight SBD Clinics (symptomatic breast clinics) across the Republic of Ireland (plus Letterkenny satellite), where over 40,000 new patients are referred by their General Practitioner (GP) each year. Same day triple assessment clinics (TAC) worked well when the TACs were small, but with the current volumes it is not possible to image all patients same day. The first component of the triple assessment is clinical (E score). The E score dictates what imaging is required (E1 normal, E2 benign, E3 likely benign, E4 suspicious, E5 clinically breast cancer) and triages patients into urgent /non urgent and this became even more important in the COVID crisis. Despite the importance of the E score, there is very little in the literature about its accuracy. The aim of this study was to look at how good the E score is at indicating/not indicating cancer in a large volume SBD clinic in Dublin.
Methods: Single large centre SBD clinic in St James Hospital, Dublin. The study included the E score and cancer/not in all patients attending TAC clinic from 2018 to 2021. Data was collected prospectively and collated by database manager.

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Results:

	Attendees at symptomatic service 2018-2021 (n)	Diagnosed with breast cancer (invasive or non-invasive) n (%)	NOT diagnosed with breast cancer n (%)
E1 & E2			
Total	12491	56 (0.4 %)	12435 (99.5%)
Age <35	2894	1 (0.03%)	2893 (99.97%)
Age ≥35	9597	55 (0.6%)	9542 (99.4%)
E3			
Total	9506	227 (2.4%)	9279 (97.6%)
Age <35	2840	19 (0.7%)	2821 (99.3%)
Age ≥35	6666	208 (3.1%)	6458 (96.9%)
E4			
Total	1315	355 (27%)	960 (73%)
Age <35	77	11 (14.3%)	66 (85.7%)
Age ≥35	1238	344 (27.8%)	894 (72.2%)
E5			
Total	405	360 (88.9%)	45 (11.1%)
Age <35	7	6 (85.7%)	1 (14.3%)
Age ≥35	398	354 (88.9%)	44 (11.1%)

Conclusion: This single centre study suggests that the E score is a reliable triage tool in a busy TAC clinic. As breast surgeons we need to establish a standard level of accuracy for clinical assessment in the TAC similar to that for the R (radiology) score and B (biopsy) score.

04

INTRA-OPERATIVE MULTISPECTRAL IMAGING FOR PRECISION IN BREAST CONSERVING SURGERY

Dhurka Shanthakumar, Maria Leiloglou, Vadzim Chalau, Martha Kedrzycki, Ara Darzi, Daniel Elson, Daniel Leff. *Imperial College London, UK*

Introduction: Current re-excision rates in the UK due to positive margins in breast conserving surgery (BCS) are up to 19%. The "Getting it Right First Time" report suggests intraoperative technology could help reduce the re-excision rates following BCS. Multispectral imaging (MSI) extracts tissue optical properties to characterise the tissue pathology in real-time. The aim was to assess the diagnostic accuracy of a custom-built MSI camera for breast cancer detection, towards margin assessment.
Method: 45 patients were recruited to a single centre prospective feasibility study. Multispectral images were taken of freshly excised BCS specimens. Each resection surface was imaged. Histopathology and intraoperative radiography were used to extract the ground truth. Linear discriminant analysis (LDA) and logistic regression were implemented for dimensionality reduction and pixel-dense classification, respectively. 5-fold cross validation with receiver operating characteristics (ROC) analysis extracted the accuracy.
Results: 45 breast cancer patients (mean age 59.5 (27 - 81)) were recruited. Tumour subtypes varied (invasive ductal cancer (n=30); ductal carcinoma in-situ (n=8); invasive lobular cancer (n=4); other (n=3)). 30 surfaces were marked for ground truth in total. 5-fold cross validation revealed an accuracy of 0.81 (SD:0.06) for both the first two and all LDA dimensions. 7 out of 13 positive; and 13 out of 17 negative margins were correctly identified.
Conclusion: MSI is a useful intraoperative technology to aid a surgeon's visualization. Speed, and accuracy in tissue discrimination, are crucial to surgical workflow patterns. Combining MSI with fluorescence imaging, and development of novel classification routines will be investigated to enhance diagnostic accuracy.

05

TISSUE OPTICS FOR MARGIN ASSESSMENT IN BREAST CONSERVING SURGERY: SYSTEMATIC REVIEW & META-ANALYSIS

Dhurka Shanthakumar, Maria Leiloglou, Colm Kelliher, Ara Darzi, Daniel Elson, Daniel Leff. *Imperial College London, UK*

Introduction: Up to 19% of patients require re-excision surgery due to positive margins in breast conserving surgery (BCS). Intraoperative margin assessment tools (IMA) that incorporate tissue optical measurements could help reduce re-excision rates. This review focuses on methods in which diffusely reflected light has been interrogated for breast cancer detection in the intraoperative setting.
Methods: Following PROSPERO registration (CRD42022356216), an electronic search was performed on MEDLINE, EMBASE and SCOPUS. Modalities searched for were diffuse reflectance spectroscopy (DRS), hyperspectral imaging (HSI) and spatial frequency domain imaging (SFDI). Inclusion criteria included human in-vivo or ex-vivo breast tissues that presented data on accuracy. Exclusion criteria included contrast use; frozen samples; and other imaging adjuncts.
Results: Following PRIMSA guidelines, 19 studies were selected. Studies were divided into point-based (spectroscopy) or whole field-of-view (imaging) techniques. A fixed or random-effects model analysis generated pooled sensitivity/specificity for the different modalities, following heterogeneity calculation using the Q statistic. The table highlights that imaging-based studies had the best specificity/sensitivity, with HSI having the best performance.

Modality Type	No. of studies	Pooled sensitivity	95% CI	Pooled specificity	95% CI
Probe-based: Overall	13	0.83	0.76 - 0.90	0.86	0.78 - 0.92
DRS	6	0.88	0.82 - 0.95	0.87	0.78 - 0.95
DRS & IFS	7	0.77	0.67 - 0.87	0.86	0.75 - 0.96
Imaging-based: Overall	6	0.91	0.92 - 1	0.92	0.78 - 1.06
HSI	4	0.97	0.78 - 1.16	0.95	0.76 - 1.14
SFDI	2	0.83	0.64 - 1.01	0.89	0.76 - 1.14

Conclusions: The use of tissue optics is an ideal IMA tool. It is rapid, non-contact and confers accuracy in discriminating between normal and malignant breast tissue.

06

INVASIVE BREAST CANCER AND BREAST CANCER DEATH AFTER NON-SCREEN-DETECTED DUCTAL CARCINOMA IN SITU

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Introduction: Women treated for screen-detected ductal carcinoma in situ (DCIS) have higher long-term risks of subsequent invasive breast cancer (IBC) and breast cancer death (BCD) than women in the general population. We aimed to evaluate these risks in women with non-screen-detected DCIS.

Methods: We undertook a population-based cohort study using data from NHS Digital following ethical approval (reference: 16/YH/0209). We included all women diagnosed with non-screen-detected DCIS between January 1990 and June 2018 in England. Women were followed from the date of their DCIS diagnosis to the earliest of IBC diagnosis, death, loss to follow-up, or 31/12/2018.
Results: 27,543 women were diagnosed with non-screen-detected DCIS and 3,651 (13.3%) were subsequently diagnosed with IBC. Amongst women aged 50–64 years, the cumulative risks of IBC at 5, 10 and 15 years after DCIS diagnosis were 5.5%, 10.9% and 15.4% respectively, compared with 3.8%, 8.5%, and 12.4% for those with screen-detected DCIS and 1.4%, 3.0%, and 4.7% in women in the general population. In the same women, the cumulative risks of BCD at 5, 10 and 15 years after DCIS diagnosis were 0.7%, 2.3% and 3.5% respectively, compared with 0.3%, 1.0%, and 2.0% for those with screen-detected DCIS and 0.3%, 0.6%, and 0.9% in women in the general population.
Conclusion: The risk of IBC and BCD in women with non-screen-detected DCIS is more than three times the risk for women in the general population for at least 25 years after their DCIS diagnosis.

07

ROLE OF BREAST MRI IN SCREENING WOMEN WITH DENSE BREASTS: A SYSTEMATIC REVIEW

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Introduction: We evaluated evidence on supplemental breast MRI to mammography for breast cancer screening/surveillance in asymptomatic women with dense breasts.
Methods: Studies were included if women received mammography/tomosynthesis and breast MRI; symptomatic populations were excluded. PubMed and Embase were searched 1995-2021. Risk of bias was assessed using QUADAS-2. Fixed-effect meta-analytic summaries were estimated for pre-defined groups (PROSPERO: 230277).
Results: 16 studies were identified in women aged 19-87 years, where 14/16 studies reported number exams (n=21,636) and breast cancers (n=320). 10/16 studies were in increased risk populations. Density was heterogeneously or extremely dense (BIRADS-C/D) in 13/16; or BIRADS-D in 3 studies. 14/16 applied digital mammography; 2/16 tomosynthesis. 14/16 used full diagnostic MRI protocols; 2/16 abbreviated protocol. Substantial variation between studies in MRI supplemental cancer detection rate was explained by whether MRI was done in first screening round (9 studies: detection 17.9/1000, 95%CI 15.4-20.5) vs subsequent rounds (5 studies: 6.6/1000, 95%CI 4.6-8.6). MRI had high sensitivity (10 studies 91.7%, 95%CI 87.7-95.7). Approximately 3 in 4 of all cancers were detected by MRI (75.9%, 95%CI 68.2-83.7) but not mammography (n=7). Variation in positive predictive value (PPV) of supplemental MRI was explained by setting (4 high risk studies (2000-12) PPV 6.4%, 95%CI 4.0-8.9 vs 4 average risk (2017-21) 18.8%, 95%CI 15.9-21.8), but confounded by epoch. Risk of bias was low in most studies.
Conclusion: Supplemental breast MRI is very sensitive with a high detection rate when used in first screening round in women with dense breast. Findings were largely consistent across studies analysed.

08

OUTCOME OF ATYPICAL OR B3 LESIONS IN BREASTSCREEN NEW SOUTH WALES

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Background: Atypical/B3 lesions comprise a heterogeneous group of lesions of uncertain malignant potential. B3 lesions diagnosed on needle biopsies are recommended for excision. The aim of this study was to determine the upgrade rate to malignancy for B3 lesions identified within BreastScreen NSW.
Methods: All lesions categorized as B3 on core needle biopsy between 2011 and 2019 in all BreastScreen NSW services were included in this study. Excision histology result including size and type were included for analysis.
Results: A total of 2219 lesions undergoing core needle biopsy in BreastScreen NSW were categorized as B3 lesions. Of the 2219 core biopsy B3 lesions, on excision, 519 (26.5%) were malignant, 607 (31.0%) atypical and 835 (42.6%) benign. The overall upgrade rate of the core biopsy B3 lesions to malignancy was 23.4%. Atypical papillary lesion, followed by atypical ductal hyperplasia and other atypical lesions had upgrade rates of 54.6%, 36.2% and 27.4%, respectively, compared to papilloma, and radial scar which had lower upgrade rates of 18.8% and 10.8%. Lesions with atypia on core biopsy had an upgrade rate of 34.8% compared to 13.6% for lesions without atypia. The median size of malignant lesions was significantly larger than atypical and benign lesions at 12.0mm compared to 9.0mm and 10.0mm.
Conclusion: Almost a quarter of screen-detected core biopsy B3 lesions in BreastScreen NSW were upgraded to cancer. The upgrade rate was higher or B3 lesions with atypia on core biopsy. On excision, lesions which were malignant were significantly larger than atypical and benign ones.

09

UPFRONT ONCOTYPE DX IN EARLY BREAST CANCER MANAGEMENT

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Introduction: Oncotype DX, a 21 gene assay has prognostic and chemotherapy predictive value. During COVID pandemic, guidance issued extended use of genomic testing to avoid chemotherapy to node positive patients. We aimed to identify impact of Oncotype DX testing in pre-operative setting of early breast cancer.
Methods: We retrospectively reviewed those patients where MDT recommended upfront Oncotype DX testing from 1st March 2020 till Sept 2022.
Results: 59 patients were identified. The mean age was 55.7 +/- 11.4 years. Two-thirds were postmenopausal. Four-fifth had symptomatic presentation. the mean tumour size was 28.8 +/- 8.7 mm. Invasive ductal carcinoma was seen in 81% (N=48). Progesterone receptor positivity was seen in 93% (n=55). Node positivity was seen in 44% (n=26) while nodes were negative in 56% (n=33). Overall, low, intermediate and high score was seen in 47% (n=28), 8% (n=5) and 45% (n=26) respectively. In node negative patients, low, intermediate, and high score was seen in 45% (n=15), 10% (n=3) and 45% (n=15) respectively. Chemotherapy was avoided in 55% patients. In node positive patients, low, intermediate, and high score was seen in 50% (n=15), 8% (n=2) and 42% (n=11) respectively. Overall, chemotherapy was avoided in 23% patients with node positive disease.
Conclusion: Upfront Oncotype DX testing can be used in node negative breast cancer patients. However, it should be used very cautiously in node positive women.

10

EXTEND OF SUPEROLATERAL AXILLARY NODES INVOLVEMENT IN BREAST CANCER - AN INTERIM RESULT ANALYSIS

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Introduction: ALND is a standard treatment option for high volume axillary disease in breast cancer. The ipsilateral arm-lymphatics are indistinguishable from the breast-lymphatics and are sacrificed during conventional ALND. Based on our experience with ICG-guided-ARM and literature review we hypothesized that the superolateral group of nodes

drain arm-lymphatics exclusively. Preservation of the nodes and lymphatics in that zone might reduce lymphedema. The axillary nodes can be divided into groups in relation to the thoracodorsal pedicle, second intercostobrachial nerve and pectoralis minor muscle. The nodal station, situated superolateral to the junction of thoracodorsal pedicle and second intercostobrachial nerve is designated as superolateral node. This study aims to validate that superolateral nodes remain unaffected in breast cancer.

Methodology: A cross-sectional study was conducted on 80 breast cancer patients with clinico-radiologically positive axilla. During ALND, the superolateral nodes were dissected out separately and sent for HPE. The extent of positivity was compared to the rest of the axillary nodes. Results were expressed in simple proportions (SPSSversion16.0).

Results: Of 80 patients, 22 patients (27.5%) had NST. The subtypes were evenly distributed [Luminal A-29 patients (36.25%), TNBC-26 (32.5%), HER/neu-enriched-25 (31.25%)]. In 73 cases (91.25%) metastatic deposits (mean 5.2) were found in axilla. In none of the cases, the dissected superolateral-nodes had metastasis (76 non-metastatic, 4 fibro-fatty tissue).

Conclusion: The superolateral nodes remain unaffected in BC irrespective of biological subtypes or axillary volume of the disease. This study emphasizes the concept of selective axillary dissection in positive axillary disease. Based on this study, an RCT has been planned to look into the safety of the procedure.

11

5-ALA INDUCED FLUORESCENCE IMAGING FOR MARGIN STATUS IDENTIFICATION DURING BREAST CONSERVING SURGERY

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Introduction: 19% of breast conserving surgeries (BCS) require re-operation due to positive margins. Fluorescence guided surgery (FGS) can provide real-time breast tumour visualization, reducing the positive margin likelihood. We developed and assessed intraoperatively a colour and fluorescence imaging system for breast cancer identification.

Method: 22 patients were recruited to a single centre prospective feasibility study (REC 19/LO/0927). 20mg/kg Aminolevulinic Acid (5-ALA) was orally administered 2-4 hours pre-operatively. Images were acquired:
ex-vivo: freshly-excised tumour, histopathological cut-ups
in-vivo: surgical cavity post-resection (n=8).
For each *ex-vivo* image, histopathology-based ground truth was marked and tumour-to-background ratio (TBR = (mean tumour intensity) / (mean healthy intensity)) was extracted. Logistic regression model (LRM) was 5-fold cross-validated for accuracy and applied to the *in-vivo* images.

Results: 22 women: median age 61 (38-79), median body mass index 29 kg/m2 (19.1- 42.0) were enrolled. 18 had Invasive Ductal Carcinoma - 9 with concurrent Ductal Carcinoma in Situ (DCIS), 2 Invasive Lobular Cancer with *in-situ* component (ISLN), 1 DCIS and ISLN, and 1 was metastatic. Receptor status was ER+ and HER 2-, except: 2 triple negative, 2 triple positive and 3 HER2+. Table 1 demonstrates TBR and accuracy results. The LRM correctly identified 6/8 negative resection cavities.

Table 1. *Ex-vivo* data-set results

Type	Analysed images	TBR: mean (standard-deviation)	Accuracy: mean (standard-deviation)
Cut-ups	24	3.9 (1.5)	0.80 (0.07)
Freshly-excised tumour	13	2.1 (0.6)	0.75 (0.13)

Conclusion: ALA may be useful for tumour visualization during BCS. Future work will combine the current system with a multispectral camera to improve accuracy.

12

ROLE OF T-REGULATORY CELLS AS IMMUNO-EVADER IN TUMOR MICROENVIRONMENT - STRATEGIES FOR THE FUTURE

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Introduction: Breast cancer (BC) description is no longer restricted to size, nodes or grades. The realization of the molecular subtyping and genetic signatures show that BC is a heterogenous disease of different behaviours, outcomes and therapeutic opportunities. The T-regulatory cells act as a double-edged sword by regulating immune homeostasis (protective role) and inhibiting immune responses in different disease settings (pathological role). They contribute to cancer development and progression by suppressing T-effector cell function and inhibiting anti-tumour immunity. Decreased intratumoral CD8+ T-cells: T-regulatory cell ratio is associated with poor prognosis. This study aims to analyse the presence of T-regulatory cells in the tumour microenvironment and compares it to benign lesions.

Methodology: A prospective observational study was conducted on 36 biopsy proven BCs and 36 benign cases were taken as control. Sample tissues were collected post-operatively from the tumour core. Quantitative analysis of Fox-P3 cells (marker of T-regulatory cells) was done by immunohistochemistry and flow cytometry. Spearman's correlation was checked between Fox-P3 levels and various characteristics of tumour status. Relevant proportions were compared using chi-squared test.

Results: T-regulatory cells were found in 8% of non-cancerous and 47% cancer tissue (p-value - <0.01). Higher concentration of T-regulatory cells was found in TNBCs, larger size and high-grade tumours.

Conclusion: Most treatments of BCs target the tumour character but there is very little resources on tumour-host interaction. T-regulatory cells seem to be one major factor, when present in the tumour microenvironment, helps the cancerous cells to survive. So, for better outcome, T-regulatory cells should be targeted specifically while treating BCs.

13

ALDH1 AND CD 44 SERVE AS PROGNOSTIC MARKERS IN PATIENTS WITH BREAST CANCER

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Background: Breast cancer micro-environment is the key factor and site for host-tumour interaction. Cancer stem cells regulate the T regulatory cell expression which is the major factor in creating an atmosphere ambient for immune evasion. ALDH1 and CD 44 are two most widely accepted markers for breast cancer stem cells (BCSC).

Aims: To assess the expression of ALDH1 and CD 44. To find association with clinicopathological parameters and molecular subtypes and explore the role of the factors in prognostication of BC.

Methodology: 30 patients of BC undergoing surgery were studied. ALDH1 and CD 44 were assessed by IHC from the paraffin block using ALDH1/CD 44 primary antibody. The expression levels were evaluated in terms of the percentage of positive cells and correlated with clinicopathological parameters.

Results: Out of 30 patients, 23 (76%) showed CD 44 positivity. 21 patients (70%) showed expression of ALDH1. Expression of CD 44 correlated with tumour size (r=0.46, p<0.05) and TNBC (r=0.83, p<0.05). ALDH 1 expression correlated positively with lymph node (r=0.40) and (r=0.21).

Discussion: The expression of ALDH1 and CD 44 serve as independent prognostic indicator in BC. Overexpression in TNBC indicates more immune evasion and the resultant aggressive nature of the subtype. Inclusion of BSCS markers, based on deep learning tools, is likely to make molecular profiling more robust. However, larger study is essential before it can be accepted in clinical practice.

14

BREAST ONCA: BREAST SURGERY TRAINING OPPORTUNITIES NATIONAL COLLABORATIVE AUDIT

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Introduction: The new curriculum introduced in August 2021 heralded changes to the oncoplastic competencies for breast trainees. Trainee surveys highlighted concern in accessing these opportunities, in particular the phase 3 requirements. The Mammary Fold and MFAC, with support of ABS, have launched this national collaborative audit to assess regional variation in training cases, identify high-volume units to guide trainee placement.
Methods: This is a national multicentre audit launched in December 2022. Units register and submit data on the number of curriculum specific operations performed between January 2018 to December 2022. All procedures in the new curriculum 'Oncoplastic breast surgery' indicative numbers are entered. Data is identified by local trainee collaborators from theatre lists and surgical diaries and data is recorded directly into REDCap database to avoid data loss.
Results: Study data is collected and managed using REDCAP data tool and statistical analysis will be performed with SPSS statistics v25. Data analysis and presentation will be available for the ABS Conference and will be the first of its kind to show real time numbers of oncoplastic operations performed. Individual centre results will be summarised and reported at regional level. Unit level data will be anonymised before being reported nationally.
Conclusions: We anticipate significant regional variability in provision of oncoplastic breast surgery training and this should guide placement decision making for senior breast trainees and consideration at a national level of 'trainee passports' to allow inter-regional training opportunities creating a robust and highly skilled future workforce for the United Kingdom.

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SURVIVAL FOLLOWING BREAST CONSERVING THERAPY VS. MASTECTOMY IN THE WEST OF SCOTLAND

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Introduction: Recent observational evidence suggests that breast conserving therapy is associated with improved survival compared with mastectomy. We evaluated survival following breast conserving therapy and mastectomy in the West of Scotland.
Methods: This is a cohort study using data from a prospective national database. All patients diagnosed with Stage I-III invasive breast cancer undergoing surgery in the West of Scotland from 2010-2018 were included. Patients were grouped by locoregional treatment: Breast conserving surgery with radiotherapy (BCS + DXT), mastectomy alone (Mx) and mastectomy with radiotherapy (Mx + DXT). Overall Survival (OS) and Breast cancer specific survival (BCSS) analysis were performed using Kaplan-Meier and Cox Regression analysis.
Results: Of 12,650 women, 7990 (63.2%) underwent BCS + DXT, 2111 (16.7%) underwent Mx and 2549 (20.2%) underwent Mx + DXT. Median follow up was 63 months. 5yr OS and 5 yr BCSS were 88.4% (95% CI, 88.1-88.7) and 93.3% (95% CI, 93.1-93.5) respectively. Following adjustment for co-variates including screen detection OS and BCSS were significantly worse for both Mx (HR 1.70 (95% CI 1.49-1.94) and HR 1.75 (95% CI 1.42-2.15)) and Mx + DXT (HR 1.33 (95% CI 1.16-1.52) and HR 1.57 (95% CI 1.32-1.86)) compared with BCS + DXT.
Conclusion: In this study BCS + DXT has improved survival compared with Mx with or without DXT adjusting for other prognostic factors. Consideration of this data along with other studies should be given when discussing surgical options with breast cancer patients.

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'PRESCRIBING' POSITIVE LIFESTYLE INTERVENTION IN THE BREAST CANCER SETTING - THE NEW GOLDEN BULLET?

Caroline Tweedie. *Gateshead Health Foundation Trust, Gateshead, UK*

Introduction: Evidence shows that patients with breast cancer who maintain a healthy weight and take regular exercise can reduce the risk of recurrence. Clinical Advice to Cancer Alliances for the Provision of Breast Cancer Services (2017) believe it is therefore essential that all patients are given advice on weight control and exercise.
Methods: At our centre, all BC patients were offered a virtual group-based intervention prior to treatments delivered by a CNS, a qualified Cancer Rehabilitation practitioner. Following treatments they attended a 6-week bespoke 'Recovery Programme' with a range of MDT specialists. The aim was to improve adherence to adjuvant therapies whilst empowering patients to overcome the challenges of maintaining fitness and a healthy weight during/after therapies.

Table 1

Evaluations of patients attending virtual lifestyle clinics (p-193)	YES	NO	UNSURE
After your diagnosis did any member of the breast team counsel you about the value of lifestyle on overall survival	11% (p-21)	73% (p-140)	16% (p-30)
Did you feel confident accessing the virtual sessions	87% (p-170)	11% (p-21)	2% (p-4)
Do you feel the group session was beneficial as opposed to one to one	98% (p-121)	1% (P-2)	0%
Do you feel the sessions helped you manage your side effects of treatments more effectively	63% (p-121)	25% (p-48)	12% (p-23)
Are you more mindful about your weight after attending the sessions	87% (p-168)	10% (p-19)	3% (p-6)
Have you tried to be more active during your treatment after attending the sessions	92% (p-177)	8% (p-15)	0%
If you smoked or vaped at diagnosis have the sessions inspired you to seek help to quit after attending the sessions	87% (p-36)	13%(p-5)	0%
Would you recommend the sessions to other patients	100% (p-193)	0%	0%
12 months on from attending the first session have you continued to utilise the information delivered in the sessions	88% (p-81)	5% (p-5)	6% (p-6)

Results: Prior to the intervention 66% of patients receiving adjuvant treatments were classified as obese and 77% reported significant weight gain after treatments. 25 sessions of the Recovery Programme were delivered; 582 patients were invited, 322 attended. (p) 193 participants completed an evaluation of the sessions (table 1) After the intervention, 92% planned to make significant lifestyle changes and, at 12 months, 88% of patients continued to utilise the information and remain vigilant regarding weight maintenance and adopting a healthier lifestyle.
Conclusions: Evidence shows that lifestyle modification after breast cancer treatment not only quickens recovery, but also improves long term cancer outcomes. This programme captures the patients at a "teachable moment" to support individuals to adhere to healthier lifestyles during and after BC treatment to improve both short- and long-term outcomes.

17

ASSESSING THE IMPACT OF THE AMENDMENT TO NATIONAL GENETIC DIRECTORY TESTING GUIDELINES, APRIL 2022

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Introduction: Identification of patients with a breast cancer genetic predisposition is crucial for informed decision making. In April 2022 the directory testing criteria for breast cancer were amended, extending testing to all patients below 40 with a grade 2 cancer for any receptor status. We assessed the impact on our mainstream referral pathway to the regional genetic team and assessed the proportion under 40 found to have a genetic mutation.
Methods: A retrospective cohort analysis of female patients <40 diagnosed between 2019 and 2022 at Buckinghamshire Healthcare NHS Trust. Patients meeting both the previous and amended criteria were included and classification of significant family history was made based on Trust guidelines for referral to tertiary service (CanRisk Score 10%). Data was collated from test reports, family history questionnaires and GP letters.
Results: A total of 55 patients were identified in the initial review with 35 patients having sufficient information for family history review. There would have been a 69% increase in mainstream referrals using the new criteria during this period. Within this cohort having a CanRisk Score 10% conferred a 20% risk of a genetic predisposition, compared to 4% in those without.
Conclusion: The referral criteria amendment would have resulted in substantially more referrals to mainstream testing. The number of additional patients who will be identified as having a genetic predisposition without a significant family history will become apparent in the next few years as patients undergo testing. This amendment will aid patients to make informed decisions and individualise healthcare.

18

UPPER LIMB PAIN AND FUNCTIONAL MORBIDITY FOLLOWING BREAST CANCER TREATMENT - A CROSS SECTIONAL SURVEY

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Introduction: Sixty percent of breast cancer patients develop persistent upper limb pain and dysfunction [De Groef et al., 2017], the management of this is unclear.
Methods: A postal survey was sent to patients treated at a regional breast cancer unit (2018-2020). Data were collected on pain (Pain Detect), shoulder function (Disability of Shoulder Arm and Hand (DASH)), and quality-of-life (EQ-5D-5L). The free-text sections invited patients' comments on upper limb symptoms and management. These were analysed thematically. Quantitative data were analysed using multivariate regression with DASH scores as the dependent variable.
Results: Of 517 patients surveyed, 162 (33%) questionnaires were returned. Respondents' mean Standard Deviation (SD) age was 62 (11.3) years. 73% (119/162) reported pain. Mean (SD) Pain Detect and DASH Score were respectively 11.07 (7) and 21.7 (21.5). Whilst 53% recorded significant shoulder dysfunction, only 28% reported accessing physiotherapy services. DASH scores were significantly correlated with QOL, ($r(162) = -0.78$; $p<0.001$, pain ($r(119) = 0.57$; $p<0.001$.

Step-forwards Linear Regression Table showing the variance in DASH.

Model	R	R2	Significance	Predictors
1	0.591	0.35	<0.000	EQ-5D-5L
2	0.625	0.43	<0.000	EQ-5D-5L, Pain Detect Score

Free-text analysis revealed persistent progressive symptoms, mixed attitudes towards exercise and variations in access to rehabilitation and support.
Conclusion: Two years following surgery many patients still report significant upper limb symptoms which adversely impact on quality of life. However, only 28% access beneficial treatments. There is a need to improve pathways of care. Funding: NIHR Imperial Biomedical Research Centre; Greater Manchester South Ethics Committee 21/NW/0032.

19

IMPACT OF THE FIRST TWO YEARS OF THE COVID-19 PANDEMIC ON BREAST CANCER DIAGNOSES IN ENGLAND

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Introduction: The impact of the COVID-19 pandemic on breast cancer outcomes following the pause in routine screening and reduced activity of the symptomatic service at periods during 2020 is unclear. Using publicly available data sources, we report key measures that assess breast cancer diagnostic service activity for England.
Methods: Data were extracted for the three financial years (April to March) of 2019/20, 2020/21 and 2021/22 from: (1) Cancer Waiting Time (CWT) data for measures of cancer service activity including counts of referrals and first treatments by age; (2) National Health Service Breast Screening Programme for the number of screen-detected cancers diagnosed annually; (3) The Covid-19 Rapid Cancer Registration and Treatment Data (RCRD) datasets for information about stage at diagnosis.
Results: The overall number of referrals was 9% lower in 2020/21 and 9% higher in 2021/22 compared to 2019/20, with larger numbers of patients referred urgently in later years. The number of first treatments was 23% lower in 2020/21 and 2% higher in 2021/22, compared to 2019/20, suggesting there may be ~10,300 'missing' women with breast cancer since the start of the pandemic. Approximately two-thirds of these may be attributable to the pause in screening. Stage data suggest a reduction in the proportion of stage 1 breast cancers diagnosed in 2020/21 (Table1).
Conclusions: Collectively, these data suggest that breast cancer diagnostic service activity has subsequently equalled or surpassed pre-pandemic levels which is reassuring. Longer-term outcomes, particularly for the undiagnosed, will require further research as data become available.

Table 1

	2019/20	2020/21	2021/22
	% (N)	% (N)	% (N)
Number of referrals	**609 664**	**552 993**	**667 136**
Urgent	71.2 (433 880)	76.8 (424 970)	76.9 (512 782)
Routine	28.8 (175 784)	23.2 (128 023)	23.1 (154 354)
Number of first treatments	**49 050**	**37 770**	**49 963**
<50 years	16.3 (8012)	18.6 (7027)	14.3 (7156)
50-69 years	49.0 (24 037)	46.6 (17 683)	51.9 (25 945)
70+ years	34.7 (17 001)	34.6 (13 060)	33.7 (16 862)
Number of screen detected cancers	**17 714**	**10 835**	**Awaited**
Number of invasive cancers	**45 560**	**37 309**	**47 493**
Stage 1	32.5 (14 829)	27.6 (10 296)	30.6 (14 543)
Stage 2	30.7 (13 969)	32.6 (12 170)	30.5 (14 486)
Stage 3	7.7 (3524)	8.3 (3105)	6.7 (3163)
Stage 4	3.1 (1390)	3.9 (1451)	3.2 (1522)
Unknown	26.0 (11 848)	27.6 (10 287)	29.0 (13 779)

20

AGREEMENT OF BREAST CANCER DRUG RECORDING IN ROUTINE HOSPITAL ADMISSIONS & TREATMENT DATA IN ENGLAND

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Background: Accurate and complete information about cancer drug treatment (CDT) is needed to evaluate uptake of oncological treatments, and subsequent outcomes. This study investigated the consistency of CDT information for early invasive breast cancer (EIBC) recorded in the Hospital Episode Statistics Admitted Patient Care (HES-APC) and Systemic Anti-Cancer Therapy (SACT) datasets.
Methods: The study included women (50+years) diagnosed with EIBC in England (2014-2019), having surgery within six-months of diagnosis. Agreement of CDT recorded in HES-APC (identified using OPCS codes) and SACT was evaluated at both patient-level and cycle-level.
Results: The cohort contained 129,326 women with EIBC. Overall concordance between SACT and HES-APC on CDT use was 94% and had increased over the study period (91% to 96%). There was wide variation across NHS trusts (lowest decile $\leq$77%; highest decile $\geq$99%). Among women receiving CDT, 9% of use was not captured in SACT, with incompleteness worst (18%) among women aged 80+. Women diagnosed in 2014 were also more likely to only have CDT captured in HES-APC. OPCS codes in HES-APC were good at identifying patient-level and cycle-level use of trastuzumab or FEC chemotherapy, with 89% and 93% concordance with SACT respectively (patient-level agreement).
Conclusions: Combining information in HES-APC and SACT provides a more complete picture of CDT treatment in women aged 50+ receiving surgery for EIBC than using either data source alone. HES-APC may have particular value in identifying CDT use among older women, those diagnosed less recently, and in NHS Trusts with low SACT data returns. This work includes patient data collated by the National Disease Registration Service.

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DIGITAL HEALTH POST PANDEMIC: TURNING QUICK FIXES INTO LONG TERM IMPROVEMENTS

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Introduction: Clinical Advice to Cancer Alliances for the Provision of Breast Cancer Services (2017) requires each patient to be offered a Holistic Needs Assessment (HNA) at key pathway points, including at diagnosis, the start of treatment and at the end of primary treatment. Macmillan Cancer Support (2022) found patients/carers affected by Breast Cancer (BC) can find the topic difficult to discuss or are unsure where to go to for credible information.
Methods: At our centre, we wanted to broaden the information outreach to those affected by BC, improve engagement, and offer a new way for people to access information. Patients when offered a HNA were also given a QR code with access to 40 podcasts devised by our own health care professionals, patients, and charities with information relating to key points in their cancer journey.
Results: The podcasts provided a simple and low-cost medium of personalised support and continue to grow in both number, popularity (currently at 2700 views) and now utilised by neighbouring trusts. The podcasts are accessible on Spotify https://open.spotify.com/show/3GvM8IEf9kVthsxtIxkzma as well as the Trust's own You Tube site. The digital medium informs patients about their condition (sometimes to the point they no longer require additional appointments) consequently reducing the need for paper-based notes and leaflets.
Conclusion: Initially formulated to support patients during the pandemic, this project provided the experience of human connection during a time of little social interaction. It has continued to grow in popularity with patients/carers supporting them with their initial diagnosis, treatment, recovery.

22

TRENDS IN THE DIAGNOSIS AND MANAGEMENT OF BREAST CANCER ACROSS THE WEST OF SCOTLAND 2010-2018

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Introduction: A number of studies over the last decade have significantly influenced the treatment of breast cancer. These include the management of the axilla, the use of chemotherapy in hormone receptor positive HER2 negative (ER+ HER2-) breast cancer and preferential use of neoadjuvant chemotherapy in Triple negative (TN) and HER2 positive (HER2+) breast cancer. We aim to assess the impact of these studies in the West of Scotland population.
Methods: This is a cohort study using data from a prospective national database. All patients diagnosed with invasive breast cancer in the West of Scotland from 2010-2018 were included. Analysis of the trends of diagnosis stage, tumour biology, surgical treatment and chemotherapy treatment over the 9 years was analysed using the AVOVA linear test.
Results: A total of 17314 women were diagnosed with Stage I-IV breast cancer. There were significant trends ($P<0.001$) towards earlier stage at diagnosis, increased breast conserving surgery and decreased axillary node clearance. Chemotherapy use significantly decreased particularly in patients with ER+ HER2- breast cancer. The proportion of patients with TN and HER2+ breast cancer receiving neoadjuvant chemotherapy increased significantly.
Conclusions: This study demonstrates the real world impact of a number of practice changing studies published over the last decade with increasing surgical de-escalation and improving selection of patient for chemotherapy.

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FAMILIAL BREAST CANCER - RISK ASSESSMENT IN PRIMARY CARE. A PILOT GENOMIC MEDICINE SERVICE ALLIANCE

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Introduction: A family history of breast cancer remains one of the strongest risk factors for developing breast cancer. To date, the majority of assessment is undertaken in secondary or tertiary care. We describe a novel pilot under the auspices of the Genomic Medicine Service Alliance (GMSA) whereby risk assessment is undertaken in primary care by appropriately trained primary healthcare professionals supported by the regional genetics' services.
Methods: We identified 3 primary care networks (PCNs) in the Birmingham area (Midlands Medical Partnership) and offered questionnaires to women aged 18-60 years. Primary care professionals underwent appropriate training using the FaHRAS Primary Care algorithm to calculate objective risk according to the NICE risk categories. Those considered to be above population risk were referred onto a dedicated Breast Genomics clinic in the secondary care setting for further risk-assessment.
Results: The initial phase of the pilot study has assessed 90 returned questionnaires. 85% of patients assessed were not considered at increased risk and were managed in primary care. These patients were offered appropriate breast health education, reassurance and guidance. 13 patients deemed to be at moderate risk and above were referred to secondary. There was a high level of patient and staff satisfaction for this primary care service.
Conclusion: Familial risk-assessment for breast cancer can be successfully undertaken in primary care. This pilot lays the foundations for future work to incorporate breast cancer risk-assessment as routine practice of genomic medicine in primary care.

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RISK FACTORS IN IMPLANT-BASED MESH SUPPORTED BREAST RECONSTRUCTION - PRO BRA TRIAL

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Background: Patient characteristics and cancer treatment may increase the risk for postoperative complications in breast reconstruction surgery. It is therefore essential to analyse those risk factors' contribution to outcome of implant-based reconstruction.
Methods: Primary or secondary implant-based breast reconstruction with support of synthetic non-resorbable titanized TiLOOP® Bra surgical mesh was performed in 269 patients during the prospective, multicentre patient reported outcome (PRO)-BRA study (clinicaltrials.gov, NCT01885572, DRKS, DRKS00005342). Secondary endpoint was the evaluation of postoperative complication rates up to 24 months after breast reconstruction. Univariable and multivariable logistic regression analyses were performed to identify risk factors (e.g., BMI, age, radiotherapy, chemotherapy, implant size) increasing the risk for having complications.
Results: Out of 362 breast reconstructions the following factors were identified in univariable logistic regression to be associated with increased risk for distinct complications: Implant size $\geq$ 75th percentile (>395 cm^3) and BMI $\geq$ 25 kg/m^2 (first event, seroma, wound complications), adjuvant radiotherapy (capsular fibrosis), age $\geq$ 50 years (seroma), transverse/vertical incision (wound complications), and adjuvant chemotherapy (infection/inflammation). Multivariable logistic regression identified implant size $\geq$ 75th percentile (>395 cm^3), neoadjuvant chemotherapy, and age $\geq$ 50 years as significant risk factors for the occurrence of the first complication.
Conclusion: These specific identified risk factors must be taken into account in implant based to achieve a complication reduced postoperative outcome.

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SYSTEMATIC REVIEW COMPARING VOLUME REPLACEMENT ONCOPLASTIC SURGERY TO ALL OTHER SURGICAL TECHNIQUES

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Introduction: Volume-replacement oncoplastic surgery (VR-OPS) is a subset of OPS that uses autologous tissue from elsewhere to replace breast volume removed during oncological resection. Most evidence for OPS is based on studies that combine volume-displacement and volume-replacement OPS techniques. We reviewed all published studies comparing VR-OPS specifically to other surgical techniques.
Methods: We searched the Cochrane Breast Cancer Register, CENTRAL, MEDLINE and Embase databases from 1980 to May 2022. All studies that compared VR-OPS to s-BCS or mastectomy +/- reconstruction were included.
Results: From 9341 records, 16 non-randomised observational studies were included - 11 comparing VR-OPS to standard breast-conserving surgery (s-BCS), 4 to mastectomy and 4 to mastectomy with reconstruction. The evidence body consisted of small cohort studies of low quality.
s-BCS
Compared to S-BCS, VR-OPS patients were younger and had bigger tumours in more varying locations. The complication rate was greater in VR-OPS. No difference in margin-positivity and re-excisions were found. Few studied oncological outcomes (only 2 had minimum 5-year follow-up) but reassuringly found no difference. No studies reported PROMs/cosmesis.
Mastectomy +/- Reconstruction
Although mastectomy may be a more appropriate comparator for VR-OPS, few studies compared VR-OPS to mastectomy +/- reconstruction. With VR-OPS fewer procedures were needed and the complication rate was lower. Two studies suggested a benefit in PROMS and cosmesis. No difference in oncological outcomes was found.
Conclusion: This review justifies the use of VR-OPS whilst highlighting the need for a large cohort study comparing VR-OPS to other surgical techniques focusing on clinicopathological factors and outcomes including PROMs/cosmesis to guide surgical decision making.

26

ARE PATIENTS BEING APPROPRIATELY CONSENTED FOR IMPLANT-BASED BREAST RECONSTRUCTION (IBR)?

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Introduction: UK guidance states that Breast Implant Associated Anaplastic Large Cell Lymphoma (BIA-ALCL) should be discussed with every patient considering IBR, using Montgomery's principles of shared decision making. There is no evidence currently to show whether clinical practice matches these standards. Our hypothesis is that IBR is still largely a surgeon-based decision and patients are not fully informed about this rare but important potential consequence.
Method: A national audit of practice standards was conducted over an 8-week period in 2020, using an anonymised online questionnaire. This was advertised by ABS and Mammary Fold communication channels. It assessed variation in practice and attitudes for different aspects of the consent process.
Results: We received 76 responses. 100% included BIA-ALCL in the list of possible risks after IBR. 50% quoted the ABS/BAPRAS figures for incidence rate and 63.2% did not provide written information. 30.4% of surgeons do not discuss late-onset seroma/ give safety netting advice. 90.2% of surgeons think that either "few" or "none" of their patients are concerned about ALCL.
90.8% said implant choice was usually the surgeon's choice. 47.4% do not offer their patients the choice of smooth versus textured implants and 23.7% do not discuss round versus anatomical implants.
Conclusion: Although BIA-ALCL is rare, it is an important potential consequence of IBR that patients should be fully counselled about. The increasing use of electronic consent forms to standardise the information provided to patients and the use of information leaflets to help patients be better informed should help to remedy this.

27

COMPARISON STUDY OF OBESE AND NON-OBESE PATIENTS UNDERGOING IMPLANT RECONSTRUCTION WITH ADM

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Aim: Obesity has been associated with higher risks of complications with implant-based reconstruction. There has been advances in mastectomy and reconstructive techniques in patients undergoing implant reconstruction. Aim of our study was to compare the surgical and oncological outcomes of immediate direct to implant reconstruction (IDTIR) with ADM in obese patients compared to non-obese patients.
Methods: Review of a prospectively collected data of IDTIR using biological mesh by a single surgeon between Nov 2016 and Dec 2022. Patients were offered IDTIR with ADM irrespective of age, smoking history, BMI and potential need for radiation treatment. In patients with grade 1 and grade 2 ptosis (Regnault classification), nipple sparing mastectomy was offered to patients provided the tumour was more than 2cm from the nipple. Chi-squared test and independent t-test were done to analyse statistical difference between the groups and a P value of < 0.05 was considered significant.
Results: There were 147 IDTIR during this period (104 in non-obese and 43 in the obese). Intergroup comparisons showed no statistical difference between the two groups with regard to baseline patient characteristics as shown in table 1. There was no statistical difference between the two groups with regard to complications needing intervention, revision surgery or oncological outcomes.

Table 1

Patient factors and outcome	Non-Obese patients - 83 (104 mastectomy and reconstruction) Median BMI Median FU-43 m (2-73)	Obese patients - 27 (43 mastectomies and reconstruction Median BMI Median FU-35 m (2-69)	P-Value
Age	52(31-83)	52 (31-71)	0.758
Smoker	20	12	0.246
Radiotherapy	36/83	14/27	0.442
Size on pathology	35 (5-124), 20 pCR	31 (11-88), 6pCR	0.579
Invasive vs DCIS	69 vs 14	24 vs 3	0.472
Grade 3 or high grade	35/83	13/27	0.586
ER +ve	53/ 69	15/24	0.558
Her 2 +ve	13/69	6/24	0.519
Triple negative	10/69	3/24	0.808
Node +ve	33/69	10/24	0.602
Outcomes			
Revision procedures	47 Fat grafting-30 Capsular contracture needing exchange of implants-9 Capsulotomy-5 Capsulectomy and Lowering of inframammary	13 Fatgrafting-4 Capsular contracture needing exchange of implants -5 Capsulotomy-3 Capsulectomy and lowering of inframammary fold	0.093
Complication needing intervention	15 Loss of recon- 4 Haematoma evacuation-2 Nipple necrosis-1 Seroma aspiration-1 Revision of scar (superficial necrosis)- 7	11 Loss of recon- 4 Wound dehiscence and change of implant-1 Superficial wound necrosis-5 Seroma aspiration-1	0.106
Locoregional recurrence	2	0	0.414
Distant metastasis	6	1	0.514
Breast cancer specific survival	81/83 (98%)	27/27(100%)	0.415

Conclusion: Obese patients undergoing IDTIR have a comparable surgical and oncological outcome to non-obese patients undergoing IDTIR with ADM.

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RADIOTHERAPY TOXICITY IN PATIENTS UNDERGOING ONCOPLASTIC BREAST SURGERY – THE SURGEONS' PERSPECTIVE

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Background: For women considering oncoplastic breast reconstruction, information about risk of treatment complications and side-effects (toxicity) is essential to formulate breast cancer management plans that minimise adverse patient outcomes, particularly in the setting of post-operative radiotherapy. In the era of precision medicine, clinical prediction models have been developed that can advise patients about their individual risk of toxicity. The aim of our study was to explore surgeons' views about breast reconstruction in the setting of radiotherapy, their understanding of risk prediction tools, and the potential impact on clinical decision-making.
Methods: Semi-structured interviews were conducted with 17 UK consultant breast and plastic surgeons recruited through the ABS network. We used inductive thematic analysis to generate common themes.
Results: We identified three emerging themes describing surgeons' attitudes and views: (1) anticipation and expected severity of the effect of radiotherapy on breast reconstruction, (2) perception of risk predictions and their utility, and (3) opportunities and barriers to implementing risk predictions the clinical care setting and their use in clinical decision-making.
Conclusions: Our qualitative study indicates that surgeons support and have confidence in the validity of risk prediction models for radiotherapy toxicity, although understanding of probability and risk remains variable. Nevertheless, surgeons felt that information provided by these models should be used to inform but not determine clinical decision-making around oncoplastic breast reconstruction in the setting of radiotherapy. These findings provide a number of insights into the feasibility of future studies to implement predictive models for radiotherapy toxicity in the clinical care pathway. Funding ABS Research Development Grant.

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OVERALL SURVIVAL FOLLOWING BREAST CONSERVING SURGERY COMPARED WITH MASTECTOMY: A SYSTEMATIC REVIEW

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Background: Breast conserving surgery with adjuvant radiotherapy (BCS+RT) and mastectomy are currently offered as equivalent surgical options for early breast cancer based randomised trials dating from the 1980s. Breast cancer treatment, however has evolved and recent observational studies suggest a survival advantage for BCS+RT compared to mastectomy. We undertook a systematic review and meta-analysis to summarise the contemporary evidence regarding survival following BCS+RT and mastectomy in women with early breast cancer.
Methods: A comprehensive systematic search identified studies published in English between 01/01/00 to 22/09/21 comparing overall survival after BCS+RT and mastectomy in patients with unilateral stage I-III breast cancer. Excluded were studies evaluating neoadjuvant chemotherapy, rare breast cancer subtypes and studies in specific breast cancer populations (e.g. pregnancy). ROBINS-1 was used to assess risk of bias with the overall certainty of evidence assessed using GRADE. Studies without critical risk of bias were included in a quantitative random effect meta-analysis.
Results: From 10,876 abstracts, 94 eligible studies were identified. Of which 25 were excluded due to critical risk of bias and 27 were excluded due to overlapping study populations. 37 studies reporting survival outcomes on 1,321,291 patients were included in the meta-analysis. The pooled hazard ratio was 0.73 (95% CI 0.65 - 0.81, $p<0.001$, I2 97.6%) demonstrating improved overall survival for patients undergoing BCS+RT.
Conclusions: This meta-analysis provides further evidence to suggest a survival advantage for women undergoing BCS+RT for early breast cancer compared with mastectomy. Although these results should be interpreted with caution, they should be shared with patients to support informed decision-making.

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SURGICAL OUTCOMES FOLLOWING ONE STAGE PARTIAL BREAST RECONSTRUCTION WITH CHEST WALL PERFORATOR FLAPS

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Introduction: In the last two decades, pedicled chest wall perforator flaps (CWPF) have become a versatile tissue replacement technique for partial breast reconstruction following breast-conserving surgery in well-selected cases. We present the surgical outcomes of our eighty patients with chest wall perforator flap based one stage partial breast reconstructions.
Methods: We audited the outcomes of three oncoplastic breast surgeons who performed partial breast reconstruction with chest wall perforator flaps from January 2018 to June 2022. We collected data on patient demographics, margin involvement, re-operations rate, surgical site infection (SSI), flap loss, flap shrinkage, haematoma, and seroma rates.
Results: A total of 80 patients underwent partial reconstruction: 41 had LICAP (lateral intercostal artery perforator), 16 AICAP (anterior intercostal artery perforator), 16 MICAP (Medial intercostal artery perforator) and 7 LTAP (lateral thoracic artery perforator) flaps. Margin re-excision was required in 13 patients (16%), and completion mastectomy in 2 patients (2.5%). A thirty-day SSI rate was 11% with a flap loss rate of 2.5%. Haematoma, fat necrosis and significant flap shrinkage was noted in 3.75%, 2.5% and 5%, respectively. Eight patients developed seroma (10%) and needed simple aspiration.
Conclusion: Partial breast reconstruction with perforator flaps is an excellent volume replacement technique in breast conserving surgery with acceptable complications in well-selected cases.

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PREDICTORS OF SURGICAL SITE INFECTION FOLLOWING BREAST SURGERY

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Introduction: Surgical site infection (SSI) is common after breast surgery despite being clean surgery. Several works of literature reported SSI rates between 3-15%. Co-morbidities like diabetes, obesity and smoking are known risk factors however, using traditional risk factors it may not always be possible to identify the patients who are at risk of SSI. We endeavoured to assess the usefulness of the American College of Surgeons' Surgical Risk Calculator (ACS-SRC) in predicting SSI following breast surgery.
Material and Methods: We audited the SSI rate of 150 patients who had breast cancer surgery between 2018 and 2022. We performed clinical audits in three phases and the audit cycle was completed following a re-audit. We calculated the predicted SSI rate for both groups using the ACS-SRC online tools. We found that the ACS-SRC could predict incidences of SSI more accurately than the traditional co-morbidities.
Results: Out of 150 patients, 80 had either oncoplastic and or reconstructive breast surgery and 70 had conventional breast surgery. SSI rate in the oncoplastic breast surgery group was 11% and in the other group was 10%. Using ACS-SRC tools patients were categorised into their groups as below-average, average and above-average risk of SSIs. We found 90% of the patient in the above-average group developed SSIs.
Conclusions: ACS-SRC has been very useful in predicting the risk of surgical site infection following breast surgery and can be used pre-operatively to identify at-risk patients. This will help to institute appropriate measures like antibiotic prophylaxis and pre-operative optimisation.

Abstracts for poster presentation at the ABS Conference, 15th & 16th May 2023, ICC Belfast

P001

IMPLEMENTING NURSE LED TELEPHONE CLINICS IN SUPPORT OF THE PERSONALISED CARE PATHWAY

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Research has proven that the timely and accurate assessment of a patient's needs are fundamental to their ongoing recovery and psychological morbidity. However, with the introduction of personalised care, patients are no longer followed up regularly in a clinic. They are advised instead to contact the CNS team with any concerns. Their call will be triaged and if required, the patient will be booked into a clinic for assessment of these concerns or signposted as appropriate.
Previously any calls were taken and logged in a diary and would await the next available CNS to triage and respond. The nurse-led telephone triage clinic was developed to ensure that a CNS is now allocated each day solely onto the telephone clinic to respond to the calls from patients and their relatives. The CNS' secretaries screen and triage all calls first resulting in the CNS contacting only those callers who require CNS input. This ensures that the patient receives the appropriate advice from the appropriate person who can signpost them as required or organise an appointment in a timely manner. The feedback from patients so far has been extremely positive that they feel listened to and their concerns addressed.
To further address this issue and ensure that patient care was enhanced a rapid re-access clinic was implemented. These clinics are run by an ANP and are held twice a week. If a patient develops a new concern they can be booked onto this clinic, ensuring they are seen quickly therefore reducing anxiety and any further tests can be requested at that time, resulting in a faster diagnosis or reassurance.

P002

RELATIONSHIP BETWEEN CLINICOPATHOLOGICAL CHARACTERISTICS AND MARGIN INVOLVEMENT AFTER SSM VERSUS SIM

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Introduction: Published data shows variation in margin involvement rates with skin-sparing mastectomy (SSM) associated with higher rates in some studies but not with others. We reviewed the relationship between clinicopathological characteristics and margin involvement after SSM versus simple mastectomy (SM).
Methods: Retrospective case-series of breast cancer patients who underwent SM between June 2021-2022 or SSM (Dec 2019-Mar 2022). Demographic and clinicopathological data were retrieved from Trust systems (Trust audit registration number: ZAUD7244). Margin involvement was defined as <1mm. Student's t-test and Chi-square test were used to compare continuous and categorical variables.
Results: Study included 156 patients (n=59 vs 97 [SSM vs SM]). Patients undergoing SSM tend to be younger (mean age=47 vs 63, p<0.001 [SSM vs SM]), less often had high grade disease (22% vs 38% G3, p=0.04) and involved lymph nodes (19% vs 48%, p<0.001), more often had DCIS only (24% vs 15%, p<0.001). Mean tumour size was similar (40.6 vs 38.7mm, p=0.32 [SSM vs SM]) as well as receptor status (61% vs 61% ER+, p=0.125; 10% vs 18% HER2+, p=0.21; 12 vs 16% triple negative, p=0.43 [SSM vs SM]). Both groups had similar tumour margin involvement (8.47% vs 6.19%, p=0.588).
Conclusions: In our study, patients who underwent SSM were younger, had a lower incidence of nodal involvement and higher rates of DCIS only. The mean tumour size, receptor distribution and tumour margin involvement rates were however similar for both SSM and SM. This indicates that with appropriate planning SSM does not necessarily increase the likelihood of margin involvement.

P003

EFFECTIVENESS OF NEOADJUVANT CHEMOTHERAPY IN DOWNSTAGING HER2+ AND TRIPLE NEGATIVE BREAST CANCERS

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Introduction: Neoadjuvant chemotherapy (NAC) is the administration of chemotherapy prior to surgical intervention, with the goal of downstaging of tumours to improve surgical outcomes or provide the option for breast conserving surgery where otherwise not possible. Triple negative breast cancer (TNBC), characterized by the lack of oestrogen receptors (ER), progesterone receptors (PR), and human epidermal growth factor receptor 2 (HER2) and HER2+ cancers are known to respond well to NAC.
Methods: NAC was administered to 35 patients aged 35 to 79, who underwent surgery between August 2013 and October 2018. Indications for NAC included: large tumour size, breast conservation, presence of nodal disease, HER2+, TNBC or a combination of these factors. 24 patients were identified as HER2+ and 8 with TNBC.
Results: Following NAC 37.1% of patients showed a complete radiological response in the breast. Post-NAC radiology was not able to be completed for two patients, who were excluded from totals. 45.4% of patients identified as having HER2+ tumours and 50% of patients with TNBC showed a complete radiological response in the breast. In patients that did not show a complete radiological response tumour size was found to be reduced by a mean of 30.6% for TNBC and 44.75% for HER2+.
Conclusion: NAC is effective in downstaging of breast cancer in patients with HER2+ tumours or TNBC, by producing either a complete radiological response or a partial reduction in size. The use of NAC also has the potential to improve cosmetic outcomes for patients.

P004

INCORPORATING THE PRINCIPLES OF ONCOPLASTIC SURGERY TO TREAT RECURRENT BREAST ABSCESS - CASE REPORT

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Introduction: Benign inflammatory breast disease can sometime have a significant impact on patients both physically and psychologically. Chronic mastitis refers to the chronic inflammation of breast tissue and can prove to have a significant negative impact on the patient due to the chronicity of the disease as well as the difficulty in managing these patients optimally. Chronic mastitis can lead to chronic abscesses & fistula formation and lead to multiple surgical interventions causing scaring and deformity of the breast tissue which will ultimately cause distress to the patient. We present 2 cases in which oncoplastic techniques were incorporated to perform bilateral mammoplasty in order to surgically treat chronic breast abscess where medical intervention had failed.
Methods: Clinical records accessed via clinical web portal along with a literature search using Pubmed, we have presented and discussed 2 cases in which mammoplasty was utilised to treat chronic breast abscesses.
Results: The cases presented both showed positive outcomes both medically and aesthetically following radical surgical intervention in the form of bilateral mammoplasty.
Conclusion: Chronic breast abscesses can have a significant effect on both psychological and physiological health of a patient. When conservative management has failed, surgical intervention is sought. The two cases presented show that a radical approach can potentially be curative in these patients. We propose further research in the form of randomised trials are required to evaluate the use of radical surgical intervention further.

P005

BREAST CANCER SCREENING IN LMI COUNTRIES: A NOVEL MODEL

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Introduction: The population mortality due to BC is 50% in LMI countries. Mammography based program is impractical because of younger median age (46.1 years), higher cost and large size presentation (4.5cm). Recent evidence shows effectivity of clinical breast examination (CBE) based program resulting in reduction in population mortality (15-30%). Though BSE is criticized, its role as an awareness tool is strong. CBE and BSE based program was rolled out in July 2022 in five districts in India.
Aim: To assess the pitfalls of the model. Establishing breast service in district towns.
Methodology: A 4 layered model was planned. Level 1: House survey by female health-workers targeted at females > 30 years of age and promoting BSE. Level 2 : Referred patients were evaluated by CHO (Nurse practitioners) at village health clinic. Level 3: Individuals with lumps are evaluated at District Breast Clinic and triple assessed. Level 4: The diagnosed patients are treated at University Hospitals. 5000 FHWs, 400 CHO and 60 medical professionals were trained over 6 months before the program is rolled out.
Result analysis: The service could be initiated successfully. The data was uploaded into the system and was analysed.
Discussion: The referral was lower (2-3%) than expected. It was due to lack of objectivity of CBE. Difficulty was faced in establishing pathological services. To maintain and trace the patients a navigator guided 'pink corridor' model is being planned.
Conclusion: The model is compliant and cost-effective for LMI countries.

P006

COUNSELLING PAEDIATRIC CANCER PATIENT BY BREAST CANCER SURVIVOR IMPROVE MENTAL HEALTH IN BOTH GROUPS**AGNIMITA GIRI.** *ICH /DISHA FOR CANCER, KOLKATA, INDIA*
Introduction: Paediatric cancer (PC) survivorship program is still in its infancy. Breast cancer survivors can play a major role in psychological counselling of the patients. The process is likely to improve the mental health of both PC patients and BC survivors (through a positive loop).
Aims: Assess improvement of PC patients following counselling. Assess improvement of mental health of the BC survivors.
Methodology: The study was conducted amongst a BC survivor group working at a paediatric cancer ward. The mental health of PC patients were periodically assessed (Pre counselling, post counselling D 0, D14). The PC patients were subdivided into 3 groups (< 6, 6-12, 12-18 years) using a stress score (a total score of 8 with higher score indicating rising stress).The mental health of the counsellors was assessed at onset and after 3 months. The association between the counselling and reduction of stress was statistically evaluated using chi-square test (SPSS version 27.0.0)
Result Analysis: 482 PC patients were counselled over 12 months by 12 BC survivors. The mean pre-and post-counselling score were 6.9 and 5.1 indicating a significant reduction ($p<0.05$). The effect was non-homogenous in different age group with maximum shift in >12 yrs and minimum shift in <6 yrs group. The survivor-counsellors' mental health was assessed using the stress score by a single coordinator (not involved in the process). There was positive impact on the BC survivors mental health (mean reduction of stress by 2.3, $p<0.0342$).
Discussion: This model is a novel one. The study emphasizes the expanding role of the BC survivors. The uniqueness of the study is in developing a mutually synergistic mechanism of positive mental health.

P007

EVALUATION OF EARLY OUTCOMES OF RADIOFREQUENCY LOCALISATION FOR NON-PALPABLE BREAST LESIONS

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Introduction: The purpose of this study was to evaluate image-guided placement of the LOCalizer radiofrequency identification (RFID) tag (Hologic, Santa Carla, California, USA) for pre-operative localisation of non-palpable breast lesions.
Methods: Consecutive screening and symptomatic patients requiring RFID tag localisation for non-palpable biopsy-proven B3 and above lesions, in

situ and invasive carcinoma between January 2021 and July 2022 were included. The primary outcome was successful excision of the target lesion as guided by the RFID tag, defined as confirmation of the lesion and presence of the RFID tag in the specimen radiograph. Secondary outcomes were the rate of re-excision to clear margins, problems encountered during TAG placement or retrieval, post-operative complications, and operating time.
Results: RFID tags were placed for 249 patients: invasive carcinoma 212 (85.1%), in situ disease 32 (12.8%) and indeterminate lesions requiring surgical excision 5 (2.0%). Median time between tag insertion and operation was 21 days (range 0-233 days) and operative time 62 minutes (range 19-267 minutes). Technical accuracy of successful RFID tag placement was achieved in 245 (98.4%) of cases. Breast density limited use of the tag and an alternative localisation technique was employed in one case. RFID tags were successfully retrieved with the target lesion in 243 (99.2%) of cases. Rate of re-excision for involved or close margins was 9.2%. Post-operative complications managed conservatively were recorded in 5 patients (2.0%).
Conclusions: Pre-operative image-guided RIFD tag placement for localisation of non-palpable breast lesions is a safe and reliable technique with high success rates and few complications.

P008

A SINGLE CENTRE EXPERIENCE WITH MAGTRACE AND SENTIMAG SYSTEM FOR SENTINEL LYMPH NODE LOCALIZATION

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Introduction: Sentinel lymph node biopsy (SLNB) is a standard procedure for axillary staging in breast cancer surgery. The recommendation for node localisation is to use a dual technique, radioactive isotope tracer and blue dye. Because of radioactive isotope availability limitations, some centres are using blue dye alone which may reduce the detection rate. The iron-based tracer, Magtrace is an alternative tool to be used. We present our experience and learning curve with Magtrace as a centre which has no access to radio-pharmacy and nuclear medicine facilities.
Methods: We created a standardised pre-injection checklist. Injections are performed either preoperatively or on table. We modulated our injection technique, started injecting deeper in the breast tissue beneath NAC. Pain score, local anaesthetic usage, site of injection, preoperative and intra-operative signal, and number of harvested nodes are recorded.
Results: A total of 63 patients underwent SLNB using Magtrace technique were reviewed, 83.3% of those injected in an outpatient setting had a median preoperative time of 9.4 days. The average pain score with and without local anaesthesia was 3.4/10. Pre-operative signal was detected in 70.9%. In the remaining 29.1%, blue dye was injected. 93% of the study population displayed a signal intra-operatively. An average of 2.3 lymph nodes were harvested per procedure. Completion clearance rate is 7.8%.
Conclusion: Magtrace is a reliable alternative to radioisotope, it is a relatively new technique that has a short learning curve.

P009

THE GOLI PROCEDURE, NOVEL TECHNIQUE FOR TOTAL AUTOLOGOUS BREAST RECONSTRUCTION, FIRST UK CASE REPORT

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Introduction: Mastectomy is still indicated in one third of breast cancer patients. A subgroup of these patients may not be suitable/eligible for traditional reconstructive options (implants and free flaps), because of associated comorbidities, or body habitus. The role of chest wall perforator flaps (CWPF) in total autologous breast reconstruction (TBR) has not been adequately studied. We report the first case of TBR within the UK, combining Goldilocks mastectomy and extended Licap flap (GoLi = round in Hindi)
Case summary: Seventy-eight-year-old female (DD cup size, BMI 35.5) was diagnosed with left breast G2 invasive lobular cancer. Breast MRI showed 80mm central mass, with nipple involvement. Patient had Goldilocks mastectomy, where the dermal flap was used to create the medial breast volume. Extended LICAP was used to create the lateral mound. The wise pattern skin flaps were closed over the reconstructed breast.
Results: The patient was discharged home next day. Post operative recovery was uneventful, except for small seroma at donor site, which required drainage. The volume achieved by GoLi procedure is much higher and more proportionate to the patient's body frame than that with Goldilocks mastectomy alone.
Discussion/Conclusion: We present an alternative procedure for autologous TBR, achieving bigger volume and round breast mound, in elderly patients with high BMI. It could also obviate the need for contralateral surgery for volume symmetrisation. The GoLi procedure utilises existing skills of oncoplastic surgeons obviating the need for microsurgery and long hospital stay.

P010

A RETROSPECTIVE AUDIT OF THE REFERRAL OF MALE PATIENTS TO THE BREAST UNIT - ARE WE SEEING TOO MANY?

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Background: Capacity pressure on the one stop breast clinic (OSBC) is an issue which needs addressing. This audit investigates the appropriateness of primary care two-week-wait referrals (TWR) of male patients with breast symptoms based on 2019 ABS/RCGP guidelines.
Methods: Following local audit approval, all male patients referred to our OSBC over a three-month period were identified retrospectively. Data was collected using a standardised proforma by interrogation of the initial referral and subsequent clinic appointment electronic records.
Results: 39 patients with full documentation were identified. Mean patient age was 49 years (range 16-91 years). On review of the TWRs, 38 (97.4%) cases had clinical examination documented, 13 (33.3%) had a medication review, and none commented on an alcohol history. 16 (42%) patients met the criteria for referral to the breast unit with 8 having features suspicious of malignancy. 19 (48.7%) could have been investigated in primary care according to the guidelines. However, just 5 (26.3%) of these had blood tests taken, with only 2 (10.5%) undergoing all recommended first-line bloods. 4 patients required no investigations in either primary or secondary care. Of the 39 patients 76.9% were diagnosed with gynaecomastia, 7.7% with pseudogynaecomastia and 2.6% with breast cancer. 89.7% were discharged after OSBC and 10.3% were seen within a follow-up clinic to discuss further management.
Conclusion: A large proportion of male patients are being inappropriately referred to the breast unit from primary care. Strict triaging guidelines are required along with appropriate education within primary care to reduce these referrals and help ease the pressures on the OSBC.

P011

ADOPTION OF DIGITAL CONSENT IN A BUSY BREAST UNIT

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Introduction: Paper-based consent processes are associated with errors of omission, illegibility, lost forms and unwarranted variation. Digital consent has been shown to reduce form errors and to improve patient perception of Shared Decision Making (SDM). The aim of this study was to evaluate the adoption of Concentric, a digital consent application within a busy breast unit.
Method: Digital consent episode data from the breast and surgical oncology unit at Portsmouth Hospitals University NHS Trust was assessed over a 7 month period (19th May 2022 - 2nd December 2022) using Electronic Health Records and Concentric analytics data. Patient feedback was obtained via optional satisfaction surveys. The study was approved by

SBRI grant (SBRIH19P3055).
Results: 504 Concentric consent episodes were created during the study period, by an average of 7 clinicians/week. The most frequent procedure was wide local excision 36% (179/504), followed by simple mastectomy 10% (50/504). Of the completed episodes, 96% (485/504) were completed in advance of day-of-surgery. A mean of 37%/week of consents were given remotely. Patients were aged 15-99 years (median 58). Consent information was shared digitally with a mean of 93% of patients/week. Average patient user experience was 4.85/5 (1=very poor-5=very good, n=152).
Conclusion: Concentric has been successfully introduced into clinical practice across a busy breast unit with patients reporting high satisfaction, demonstrating digital consent is feasible. The majority of consent was completed prior to the day-of-surgery and remote consent functionality was well used. Integration with existing Electronic Health Records ensures visibility and no lost forms.

P012

THE BIRMINGHAM GUIDELINES FOR INFLAMMATORY BREAST CANCER - AN UPDATE

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Introduction: The management of Inflammatory Breast Cancer (IBC) in the UK is poorly understood. The diagnosis of IBC remains a clinical one. There is no pathogenomic test for the diagnosis and there remain variations of what is truly an IBC or inflammation to a locally advanced breast cancer with secondary congestion and inflammation. Previous guidelines have concentrated on the clinical features of the disease with limited reference to molecular markers for this disease. We have established our guidelines based on our experience from the UK's first IBC clinic.
Methods: We reviewed the literature and examined pre-existing guidelines. We included the diagnostic workup (clinical presentation with signs and symptoms, radiological assessment, tissue diagnosis and translational opportunities), therapeutic modalities based on tumour biology and extent of disease (systemic anti-cancer therapy, surgical and local regional adjuvant therapies).
Results: The clinical diagnosis of IBC is based on duration of symptoms (<6 months), percentage area of breast involved with inflammation. Tissue diagnosis is made by needle and punch biopsy of tumour and skin - the latter assessing for dermal involvement and tumour emboli. Collection of fresh tissue is critical for ongoing translational work looking for biomarkers for this disease. MRI and CT scanning is necessary in addition to routine breast imaging. The management of this disease is best undertaken in a multidisciplinary team.
Conclusion: The management of IBC requires a coordinate, multi-disciplinary approach.

P013

PREDICTION OF NEGATIVE AXILLARY NODE CLEARANCE BY SENTINEL NODE POSITIVE TO TOTAL NODE RATIO

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Introduction: Increasing evidence suggests that de-escalation of axillary surgery is safe, without significantly impacting patient outcome. Obtaining positive lymph nodes at sentinel lymph node biopsy (SNB) can guide decisions towards requirement of axillary nodal clearance (ANC). However, methods to predict how many further nodes will be positive are not available. This study investigates the feasibility of predicting the likelihood of a negative ANC based on the ratio between positive nodes to the total number of lymph nodes excised at SNB.
Methods: Retrospective data from January 2017 to March 2022 was collected from electronic medical records at Broomfield Hospital. Patients with estrogen receptor (ER) positive and HER-2 negative receptor disease were included in the study. ER negative and HER-2 positive disease was excluded, as were patients who had chemotherapy before ANC.
Results: Of 102 patients, 58.8% (n=60) had no macro-metastasis at ANC. On average 2.76 lymph nodes were removed at SNB. A higher SNB ratio of positive to total nodes (OR 11.09 [CI 95% 2.33-52.72], P 0.002) had significant association with positive nodes during ANC. SNB ratio less than or equal to 0.33 (1/3) had a specificity of 79.2% in identifying cases that later had a negative completion ANC, with a 95.8% specificity of no further upgrade of nodal staging. 65.2% of the patients (n=15/23) who had non-SNB palpable nodes removed intra-operatively had macro-metastasis in them.
Conclusion: Low SNB ratio of less than 0.33 (1/3) has a high specificity in excluding upgradation of nodal staging on completion ANC, with false negative rate of less than 5%.

P014

A TWO-STAGE APPROACH TO IMMEDIATE NIPPLE SPARING MASTECTOMY IN BREAST RECONSTRUCTION

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Introduction: Immediate Implant Based Breast Reconstruction (IIBR) is the commonest breast reconstruction in the UK. Radiotherapy can have detrimental effects on the success of IIBR and is standard practice for node positive patients. Nipple sparing (NS) IIBBR has become popular due to the better cosmetic outcome. We propose a staged approach to NSIIBR, with initial sentinel lymph node (SLNBx) and sub-areolar biopsies (SABx), prior to reconstruction. This provides more information to guide the consent process and decision-making.
Methods: Data were collected retrospectively on all consecutive patients considered suitable on conventional imaging for a NSIIBR undergoing an upfront SLNBx and SABx. Demographic, operative and management data were analysed.
Results: There were 19 patients, with a median age of 51. 42.1% (8/19) had an unexpected positive SLNBx or SABx requiring a change to reconstructive plan. Three patients opted for a simple mastectomy while one opted for a therapeutic mammoplasty and one a skin sparing mastectomy and expander. Two of these has now had a delayed autologous reconstruction. Three patients proceeded with IIBR. Of all the patients who ultimately underwent IIBR (14/19) the overall implant loss rate was 7%.
Conclusion: Previous papers have demonstrated the benefit of upfront SLNB in identifying unexpected nodal disease prior to reconstruction. Adding SABx to this process, increases the identification of unexpected results and therefore aids in planning the appropriate technique for the patient and helps with patient expectations and consent.

P015

PROGNOSTIC SIGNIFICANCE OF KI-67 EXPRESSION IN BREAST CANCER PATIENT

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Introduction: Among various characteristics of breast cancer, progression is currently evaluated using the biologic indicator Ki-67 to determine the degree of tumour proliferation. This study aimed to identify the association between Ki-67 and the tumour related characteristics of patients.
Methods: A retrospective study of patients who underwent breast-conserving surgery at Shaukat Khanum Memorial Cancer Hospital, Lahore, Pakistan. Additionally, data was extracted from hospital information system from January 2016-June 2019. Survival analysis was done to check the survival difference in Ki-67 groups.
Results: A total of 601 patients were reported with a mean age and mean body index of 26.63 and 23.31. The most prevalent symptoms at

presentation was lump 588 (97.8) and majority of the patients had above 20% Ki-67 score 404 (67.2%). IDCA was the most prevalent pathology, and the mean tumour size was 15.6mm. Recurrence was reported in 102 (17.0%) and death reported in 49 (8.2%) patients. There was statistically significant association (p-value: 0.001) was seen in recurrence, grade, architectural distortion, lymph node positivity, ER, PR, post chemotherapy tumour size and nodal status versus Ki-67 (up to 20 and above 20). There was statistically significant (Breslow generalized Wilcoxon; p-value 0.02) difference was seen in three years disease free (91% and 82%) and overall survival (95% and 91%) versus Ki-67 (up to 20 and above 20), respectively.
Conclusion: Ki-67 level is an important independent prognostic factor in determining survival outcomes. Further research should be made in order to establish Ki67 as a standard prognostic marker in breast cancer.

P016

ROLE OF LIPIDOMIC SIGNATURES IN PROGNOSTICATION OF BREAST CANCER - A PILOT STUDY

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Introduction: Lipid reprogramming has a major attribution to rewiring of the oncogenic signalling pathways during onset and progression of cancer as well as establishing crosstalk between cancer cells and tumour microenvironment. Therefore, sphingolipids can provide breast cancer (BC) subtype- and stage-specific signatures/biomarkers that can help in prognosis, and prediction of the treatment outcome for subtypes like TNBC and luminal.
Material and methodology: We recruited 20 BC patients (stage 2-3) belonging to luminal-A (LA) and Triple-Negative Breast Cancer (TNBC) subtypes (10 each). We systematically compared the sphingolipid profile (Ceramide-1-phosphate (C1P) and Sphingosine-1-phosphate (S1P)) using targeted liquid chromatography mass spectrometry among stage II and stage III tumours for luminal-A and TNBC subtype.
Results: In luminal A BC patient, mean C1P levels of tumour were approximately 2 times more in stage 3 patients as compared to stage 2 patients. Similarly, mean S1P levels were approximately 4 times more in stage 3 patients as compared to stage 2 patients. Similar trend was seen among TNBC patients, where mean C1P levels were around 6 times more in stage 3 patients as compared to stage 2 patients and mean S1P levels were approximately 20 times more in stage 3 patients as compared to stage 2 patients.
Conclusion: Trends suggest that C1P and S1P levels are higher in stage 3 as compared to stage 2 and hence it can be used as a prognostication marker though larger sample size and long follow up is suggested to establish the prognostication role of these moieties.

P017

INFLAMMATORY BREAST CANCER CLINIC - SETTING UP A REGIONAL SERVICE

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Introduction: Inflammatory Breast cancer (IBC) is a rare, aggressive form of breast cancer accounting for 1-4% of all BCs. The definition of IBC is variable with some overlap with a locally advanced BC. There is paucity of data on UK outcomes with variability in what is defined as an IBC. We describe the initial results of the first UK multi-disciplinary IBC clinic.
Methods: Key members of the multi-disciplinary team were identified to include: Breast Surgeons, Breast Oncologists, Breast Care Nurses, Breast Pathologist, Breast Radiologists and Translational Research Academics. We worked closely with Inflammatory Breast Cancer Network UK. We accepted referrals for newly diagnosed patients, those who had relapsed with distant disease and second opinions. We sought ethics approval for the collection of fresh material for translational research.
Results: The IBC clinic was established at University Hospital Birmingham in May 2022 in conjunction with the University of Birmingham. Over a 6-month period we received 10 referrals - 3 were external referrals. 2 patients did not fit the clinical criteria for an IBC and remained within routine breast cancer follow up. The majority of patients reviewed were considered to have Stage 3 disease with 2 patients having Stage 4 disease. Collection of fresh material proved to be challenging due to restrictions of consent for non-diagnostic investigations.
Conclusion: Challenges remain in the diagnostic accuracy and subsequent management of IBC. Regional centres with an active interest in collecting patient information and fresh tissue for translational research will be helpful in the future management of this disease.

P018

A CASE REPORT AND LITERATURE REVIEW OF IATROGENIC ARTERIOVENOUS FISTULA (AVF) IN THE BREAST

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Introduction: Iatrogenic AVF is a rare complication of breast procedures. We present a case report of a 34 yr old woman who developed AVF following core biopsy. We also conducted a literature review of previous studies on AVF in breast patients.
Methods: A case study is discussed of a patient presented to Broomfield Hospital in Chelmsford in February 2022. The literature search was conducted using the databases: medline, embase and pubmed (1946 to present). The following Mesh terms and their combination was used: 'AV fistula', 'iatrogenic fistula', 'arteriovenous fistula', 'breast' and 'breast disease'.
Results: A 34-year-old attended a one-stop clinic for assessment of a left breast mass which was biopsied and confirmed to be cyst. At the time of the biopsy, she had excessive bleeding and developed a haematoma. She represented subsequently after hearing an unusual noise from her left breast. A palpable pulsatile mass was found on examination. MRI and CT angiogram confirmed an 11mm iatrogenic AVF. Six case reports of AVF in the breast were found. AVF secondary to biopsy in the breast was most commonly found between the lateral thoracic artery and perforators to the homologous vein. It was mostly investigated with CT angiogram and treated with surgical tie of the feeding perforator vessel.
Conclusion: AVF remains a rare and therefore often unexpected complication of biopsy. It is important to be aware of this, especially when a biopsy is performed on the lateral side of the breast and the patient develops a haematoma.

P019

TREATMENT PATTERNS IN BREAST CANCER: REAL WORLD DATA AUDIT FROM TERTIARY CARE CANCER CENTER IN LMIC

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Introduction: High income countries (HIC) report 88% higher incidence and 17% lower mortality of breast cancer than lower/middle income countries (LMIC). Data from most LMIC suffer from limited population coverage and lack of depth in data collection.
Methodology: An audit of prospectively maintained computerized breast cancer database of the department of surgical oncology at a tertiary care center was performed after institute approval (IECPG-241/24.06.2020). Treatment patterns including surgical pattern of primary and axilla and adjuvant treatment including neoadjuvant chemotherapy (NACT), adjuvant chemotherapy (ACT), Post-operative radiotherapy (PORT) and hormone therapy were analyzed for patients treated between 1992-2019.
Results: A total of 4628 patients were treated between 1992-2019. Number of patients receiving single modality, two modalities, three modalities and all the four modalities of treatment were 2.6%, 19.7%, 40.5% and 37.2% respectively. Mastectomy and breast conservation surgery (BCS) was

performed in 79.1% and 20.9% patients respectively. SLNB was performed in 21% patients. Single dye method was most used method for identification of sentinel LN and methylene blue dye was the most common dye used. An average of 2.17 LN were removed and an average of 1.7 LN were positive. Total chemotherapy utilization rates and radiotherapy utilization rates were 83.4% and 49.4% respectively. Taxane based chemotherapy was most common regimen used followed by anthracycline-based regimens. Most common drugs used for hormone therapy were tamoxifen (69.8%) and aromatase inhibitor (20.3%).
Conclusion: In absence of large population-based registries, prospectively maintained cancer-specific databases will help LMIC in planning their policies for treatment and screening.

P020

NOVEL VERTICAL SCAR THERAPEUTIC MAMMOPLASTY BREAST TRAINING SIMULATOR - A FEASIBILITY STUDY

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Background and Aims: Simulation-based surgical training is increasingly important in supporting new competency-based assessments. Simulation in basic breast oncological surgery has been previously developed but not for advanced oncoplastic techniques such as Therapeutic Mammoplasty (TM). The aim was firstly to iteratively design a breast simulator and then establish whether it can achieve visual and anatomical realism when simulating a vertical scar TM procedure.
Methods: Ethical approval was obtained. The simulator underwent several iterations and initial focus was breast size/ volume ratio of material, location of tumour and appropriate ptosis. Once achieved, further iterations to overcome challenges of de-epithelialisation, nipple pedicle selection and wound closure. Following the approval of a first prototype, independent breast surgeons (consultants/attendings) were invited to perform vertical scar TM on the model, during an international conference. Feedback forms were used to test face and content validity.
Results: 14 breast surgeons performed a vertical scar TM procedure on the model. All were able to complete the entire TM procedure (skin to skin). On a rating scale from 1 to 5 (Disagree/Agree), 65% rated 3 and above for similarity to real life operating. More than 90% scored a 3/5 or above for both "usefulness for training" and "transferrable skills" to real clinical practice.
Conclusion: A novel TM Breast Model has been developed, which has been rated by expert surgeons as realistic, across several criteria. The results suggest that the simulator is content and face valid. Current work includes the development of a Clinical Assessment Tool (CAT) through a Delphi consensus process.

P021

WIRES OR TAGS? LOCALISING NON PALPABLE BREAST LESIONS IN A DISTRICT GENERAL HOSPITAL

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Introduction: Wire-guided localisation (WGL) is the most widely used technique for surgical excision of non-palpable breast lesions. However, this method has limitations including wire transection/migration and inflexible scheduling. To combat this, recent technological advances have created wireless, radiation-free localisation methods, like the LOCalizerTM, based on radio-frequency identification (RFID) technology. In this prospective study, we evaluated the role of RFID and compared it to WGL in our District General Hospital.
Methods: We prospectively evaluated 10 cases of RFID as a clinical evaluation of this technique. We compared the results to the wire guided cases done during the same study period (from November 2021 to September 2022).
The evaluation focused on:
-Successful localisation
-Identification and retrieval
-Status of surgical margins, need for re-operation
-Resected specimen weight
Results: 10 RFID tags (6 malignant, 4 benign cases) were deployed under Ultrasound guidance, and 24 wires were deployed (20 cancer, 4 benign cases) under Ultrasound or Mammogram guidance, to localise non-palpable breast lesions. All tags and wires (except 1 wire case) were deployed and localised successfully, and all target lesions were retrieved successfully.
Conclusion: Our study demonstrates that radiofrequency localisation technology is an effective and comparable alternative to wire-guided localisation, with the added advantage of decoupling surgery and radiology scheduling.

Table 1. Comparison between Wires and Tags

	Wires	Tags
Average number of days between tag/wire insertion and surgery	0	18.9 days (6-55 range)
Reoperation rate for positive margins	6/20 (30%)	1/6 (16.7%)
Average number shaves	2	1.5
Average specimen weight (Only cancer cases)	51g	57g

P022

FURTHER LYMPH NODE INVOLVEMENT IN POSITIVE SENTINEL NODES AFTER NEOADJUVANT THERAPY IN BREAST CANCER

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Objectives: Axillary nodal status is an important factor that affects not only the treatment decision but also survival in breast cancer patients. As the world is moving towards less invasive cancer surgeries, we aim to see whether we can omit axillary dissection in post-chemotherapy patients in whom only one or two sentinel nodes were involved (as we do routinely in upfront breast conserving surgeries while following Z-11 protocol.)
Materials and methods: Data was retrospectively collected between Jan 2018 to Dec 2020. 100 patients were included in the study. All patients received neo-adjuvant chemotherapy. The indication of neo-adjuvant in these patients were relatively bigger tumour size. All patients had clinically negative axilla at presentation. Sentinel lymph node biopsy (SLNBx) and frozen section was done in all.
Results: Tumour Biology of whole group was; ER positive 70%, PR positive 44%, HER-2Neu positive 18%. Minimum lymph nodes (LNs) sent were 1 in 11 (11%) patients, 2 LNs were sent in 21 (21%) patients, in the rest of the patients, 68 (68%) 3 or more LNs were sent. Out of 100 patients 15 patients (15%) had positive SLNs and ALND was done subsequently. 7 (46.7%) patients out of 15 patients had no further LNs, while rest of 8 (53.3%) patients had further LNs involved too.
Conclusion: In post neo adjuvant patients undergoing SLNBx, ALND should always be performed as a safer option, as half of the patients have further LNs involved as well.

P023

IMPROVING THE PATIENT JOURNEY BY AVOIDING FACE-TO-FACE APPOINTMENTS FOLLOWING BENIGN BREAST BIOPSIES

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Background: Minimising face to face (F2F) contact can reduce the costs of outpatient clinics and increase patient satisfaction. Patients undergoing

biopsy for suspected benign disease need discussing at an MDT meeting as per national guidelines, however the majority of these do not need further treatment. We aimed to assess the utility and safety of managing patients without a further F2F appointment following benign MDT discussion.
Methods: A retrospective case-note review was performed on 100 patients discussed at the benign biopsy MDT between June and August 2020. Clinicopathological data was collected on presenting symptoms, histopathology, management, and subsequent requirement for F2F appointment.
Results: Median age was 43 years (range 25-88). Eighty-one patients (81%) presented with a lump or nipple discharge. The final diagnosis was normal in 22 (22%) patients, a diagnosis of fibroadenoma in 35 (35%), a B3 lesion in 8 (8%) patients and another benign diagnosis in the remaining 35 (35%) patients. Sixteen (16%) patients required surgery or vacuum-assisted-Biopsy, 18 (18%) required further clinical or radiology follow up and 66 (66%) were reassured and discharged. Forty-three (43%) patients were informed of the MDT plan by letter and 42 (42%) by telephone. There were no malignancies identified in any patients. Fourteen (14%) patients required a F2F appointment most commonly because of further clinical review, patient request or interpreter requirements.
Conclusion: The vast majority of patients undergoing benign biopsy can avoid a further F2F appointment, even if further biopsies or intervention is needed. This can reduce the burden on outpatient clinics whilst improving patient convenience.

P024

DUCTAL CARCINOMA IN SITU RECURRENCE: A SINGLE TERTIARY CENTRE RETROSPECTIVE STUDY

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Introduction: Breast cancer (BC) screening resulted in significant increase in Ductal carcinoma in situ (DCIS) incidence. This study aims to identify clinic-pathological and treatment features associated with BC recurrence after initial DCIS.
Methods: Retrospective review of prospectively maintained database of Patient-Initiated Follow-Up service in single centre.
Results: 247 patients were diagnosed with DCIS, of which 32 (13%) developed recurrence (R group), and 209 (85%) did not (NR group). 6 (2%) patients had new primary contralateral BC (not included in analysis). For (R), and (NR) groups, mean age at diagnosis was 53, and 57 years, mean follow up was 262 and 121 months respectively. High grade DCIS constituted 46% and 65%, while mean tumour size was 23mm, and 28.3mm, in (R), and (NR) groups respectively. Breast conservation surgery was performed in 78% in (R) versus 67% in (NR) group. Approximately half of patients in (R) group received radiotherapy, compared to 25% in (NR) group.
Conclusion: Lack of significant associations between DCIS clinicopathological pattern or treatment modality and BC recurrence highlights the need for greater understanding of DCIS biology and behaviour. Until then, we need to continue to treat DCIS with surgery and adjuvant treatments. A greater understanding of DCIS on a molecular level may reduce overdiagnosis and allow targeted treatments to more aggressive DCIS subgroups.

P025

THE IMPACT OF QUADRUPLE NEGATIVE BREAST CANCER IN PROGNOSIS

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Introduction: Breast cancer, the first cause of cancer-related death in women, is a heterogeneous disease, with different subtypes depending on the expression of endocrine receptors. Triple Negative Breast Cancer (TNBC) has worse prognosis with an aggressive clinical course and high recurrence rates. Depending on the luminal androgen receptor (LAR) expression, TNBC has two subtypes: the classic phenotype-LAR and the Quadruple Negative Breast Cancer (QNBC). This study aims to compare overall survival (OS) and Disease-Free Survival (DFS) between these two phenotypes.
Methods: Adult women diagnosed with TNBC at our center between 2013 and 2018 were retrospectively studied. All cases were tested for LAR expression using immunohistochemistry. Stage IV was excluded. Imaging was used for follow-up. Bivariate fit and Kaplan-Meier analysis were conducted (SPSS software).
Results: Out of 37 women, 27 were finally included in the study and were allocated to two arms: LAR 25.9% (n=7) and QNBC 74.1% (n=20). The median age at diagnosis was 58 years. The bivariate fit analysis demonstrated that QNBC correlated with younger age and was statistically significant (p=0.049). The OS from Kaplan-Meier analysis was 71.4% (5/7) and 65% (13/20) for LAR and QNBC respectively (x2=0.203, p=0.652). The 5-year DFS was 71.4% (5/7) and 70% (14/20) for the two subgroups (x2=0.035, p=0.851).
Conclusion: Although OS and RR were worse for QNBC phenotype, the results didn't reach statistical significance possibly due to the small sample size. QNBC was associated with younger age.

P026

BIA-SCC: A REVIEW OF THE LITERATURE OF THIS RARE DIAGNOSIS

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Introduction: A safety communication statement issued by the Food and Drug Administration (FDA) in September 2022 has highlighted the breast surgical world to the diagnosis of Breast Implant Associated - Squamous Cell Carcinoma (BIA-SCC). Little data is known about this exceedingly rare entity and further understanding is warranted.
Methods: A literature review and synopsis of the FDA and American Society for Plastic Surgery (ASPS) advice was conducted to combine the latest up to date information to present to the local breast MDT. Comparisons were made between BIA-ALCL and BIA-SCC presentation, incidence, diagnosis and management.
Results: There are 6 case reports published between 1992-2022 on BIA-SCC. At the time of writing there have been 16 reported cases of BIA-SCC worldwide (in comparison to 1, 227 worldwide cases of BIA-ALCL). BIA ALCL/SCC present in the same way with a delayed seroma around a breast implant and can be associated with mass and capsular contracture. The diagnostic criteria differs for BIA-SCC and peri-prosthetic fluid must be aspirated and is diagnostic if CK5/6 and p63 positive. Flow cytometry can also be performed for squamous cells and keratin. Surgical treatment is explantation and en-bloc capsulectomy, the reported mortality rates are higher for BIA-SCC (44% at six months). At present there appears no benefit with adjuvant therapy.
Conclusions: It is important to be aware of emerging cases of BIA cancers however, BIA SCC is exceedingly rare. Local MDTs should decide if in the rare cases of investigating BIA-ALCL they could also consider including the diagnostic markers of CK5/6 and p63.

P027

OUTCOMES FOR TAD/SLNB COMPARED TO ANC IN NODE POSITIVE PATIENTS FOLLOWING NEOADJUVANT CHEMOTHERAPY

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Introduction: Radiological response following neoadjuvant chemotherapy (NAC) in node positive patients provides guidance to select those patients who may be suitable for targeted axillary dissection (TAD). We examined the clinicopathological outcomes for patients undergoing TAD/SNB versus those undergoing axillary clearance (ANC).
Methods: Patients presenting with node positive disease who received NAC were retrospectively identified from the period February 2017 to

September 2022. Clinico-pathological outcomes were identified using patient electronic records. Statistical analysis was performed using Chi-square and Mann-Whitney test.
Results: 160 patients were identified (median age 54 yr (27 – 79yr)). 56 patients underwent TAD/SNB (with 12 patients undergoing completion clearance cANC) and 104 patients ANC. There was no difference in clinically palpable nodes (TAD/SNB: 37/44 vs ANC/cANC: 86/116; p= 0.212), sonographically abnormal ≥3 nodes (TAD/SNB: 20/44 vs ANC/cANC: 58/116; p = 0.858) or T stage ≥3 (TAD/SNB: 20/44 vs ANC/cANC: 58/116; p= 0.723 between the groups at presentation. There was, however, more triple negative and ER- HER2+ cancers in TAD/SNB group (28/44) vs ANC/cANC (46/116) (p=0.008), less radiologically abnormal nodes ≥3 following NAC in TAD/SNB group (1/44) vs ANC/cANC (25/116) p=0.002. Less total median nodes removed during TAD/SNB 4 (3-5 IQR) vs ANC/cANC 11 (8-15 IQR) (p<0.0001) and less median nodes microscopically involved after TAD/SNB (0 (0-1 IQR) vs cANC 2 (1-3), ANC 2 (0-5.75IQR) p<0.0001. Postoperative complication rate was higher following ANC/cANC 25/116 vs TAD/SNB 3/44 (p=0.035).
Conclusions: Radiological response remains a reliable guide for TAD/SNB selection. ANC is associated with increased morbidity in comparison to TAD/SNB.

P028

REFERRAL TYPE AND PATIENT OUTCOME AT LOW RISK CLINIC

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Introduction: Due to increasing referrals, alternative approaches to the traditional one-stop clinic are required to ensure timely review of all patients being referred into breast services. We describe the outcomes of patients attending alternative, low-risk breast clinic undertaken as a waiting list initiative (WLI) at weekends.
Methods: Low-risk was defined as any patient under 40 years or over 40 years with symptoms other than a lump. WLI clinics were undertaken by consultant surgeons and consultant radiologists with breast ultrasound available. If indicated, pre-clinic mammogram was undertaken and reported at clinic. This prospective data collection ran over 11 consecutive WLI clinics. Patient age, mode of GP referral, imaging performed, and clinic outcome were recorded.
Results: 966 patients were appointed to WLI clinics. 5% (n=53) failed to attend their appointment. Data was recorded for 73% (n=710) patients. The mean age of patient was 37 years (range 12-68 years). Mode of GP referrals: urgent suspicion of cancer (USOC) 43% (n=307), urgent 23% (n=162) and routine 34% (n=240). Same clinic breast ultrasound was performed in 53% (n=374) and pre clinic mammogram performed in 18% (n=128). Patient outcomes following clinic attendance: 86% (n=607) were 'reassured and discharged', 4% (n=31) were 'observe- planned return appointment'; 6% (n=42) core biopsy result awaited and 4% (n=30) 'other'.
Conclusion: Many patients referred as USOC can be safely managed in a low risk WLI. Combined surgeon and radiologist low risk WLI for new breast symptoms ensures timely review. The majority of patients were reassured and discharged following attendance.

P029

HOW SENSITIVE IS PRE-OPERATIVE AXILLARY ULTRASOUND IN EARLY BREAST CANCER?

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Introduction: NICE guidelines advise pre-operative ultrasound (USS) of the axilla in early breast cancer. Two large studies showed USS had sensitivity of 74% and 83.3% and specificity of 89% and 82.75% respectively in detecting axillary nodal metastases. The aim of this study was to review the sensitivity and specificity of pre-operative USS in our breast unit.
Method: Retrospective data was collected from May 2021 to May 2022. All patients with early breast cancer were reviewed together with their pre-operative axillary USS and post-operative axillary nodal status. Patients who were clinically and radiologically node negative underwent sentinel lymph node biopsy (SLNB). The sensitivity and specificity of axillary USS in detecting nodal disease was calculated using an online statistical software.
Results: A total 199 patients were studied. 15 (13.5%) were positive for axillary metastasis and 184 (86.5%) were negative. 39 of the 184 patients had positive nodes following surgery. The sensitivity and specificity of USS in detecting nodal metastases were 80% and 71% respectively.
Conclusion: The sensitivity of USS in detecting axillary nodal metastases is similar to published studies.

P030

GRANULAR CELL TUMOUR IN A MALE BREAST

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Introduction: Granular cell tumour (GCT) is a rare neoplasm of the breast, accounting for 1/1000 cases of breast cancer. GCT of the breast accounts for between 5% and 15% of all GCT cases. Very few reports of GCT have been described in the male breast, and its origin is believed to be from peripheral nerves in the lobular breast tissue. We present a case of GCT in a 66-year male with existing gynaecomastia who presented with an equivocal lump in the breast. The radiological features of GCT resembled that of invasive breast cancer. The core biopsy histopathology showed equivocal features of a B3 lesion in which the cells are positive for S100 and CD68, and are negative for Pancytokeratin. The excision histopathology confirmed GCT with increased mitoses and infiltrating the margins. While most GCTs are benign, less than 1% of cases, including mammary lesions, have been described as malignant features. The distinction between benign and malignant GCTs was proposed by Le et al. and Adeniran et al. based on histopathological criteria. The treatment of GCT involves wide local excision with generous margins.
Conclusion: We present this case because of the rarity of this tumour in this presentation on a male patient. The treatment of GCT involves wide surgical excision, which is generally curative, however, incomplete excision is associated with a risk of increased local recurrence.

P031

DEFINITION OF A CLEAR MARGIN IN BREAST CONSERVING THERAPY: SPLITTING HAIRS OR RELEVANT DISTINCTION?

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A recent meta-analysis has challenged prior international guidance on what constitutes an oncologically clear margin among patients undergoing breast-conserving surgery (BCS). Current Irish national guidelines are aligned to the 'no tumour on ink' definition. The aim of this study was to evaluate what impact adherence to a minimum of 1mm margin would have upon re-excision rates. A single-centre, retrospective analysis was performed of patients who underwent BCS for symptomatic, invasive breast cancer from 01/01/2021 to 31/12/2021. A database was constructed from electronic patient records and postoperative histology reports. 230 patents that underwent BCS were included, 22% of whom had received neoadjuvant chemotherapy. The incidence of positive margins was 22% (n=10), defined by "no tumour on ink". All underwent re-excision of the positive margin. Larger tumour size (30mm vs. 20mm, p<0.001) and positive sentinel lymph node biopsy (70% vs. 17%) was more common in patients undergoing re-excision. LVI, receptor status and NACT use did not differ between the groups. A further 11% of patients would have required margin excision for extended margin requirements of a minimum of 1mm to be obtained. This is at a higher rate than estimated in the recent meta-analysis. In the contemporary era of multimodality therapy for breast cancer, margin status remains an important factor impacting local recurrence risk. If international guidelines are revised or Irish guidelines changed to align with UK rather than US guidance, a higher volume of

patients will be predicted to undergo margin re-excision so efforts should continue to abrogate this rate.

P032

CAPTURING LONGER TERM SURGICAL OUTCOME MEASURES AS PART OF ROUTINE CARE OF BREAST CANCER PATIENTS

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Introduction: The transition away from routine clinical follow up after breast cancer towards imaging surveillance and patient-initiated contact has limited opportunities for patients and doctors to communicate about the long-term effects of treatment. The ABS oncoplastic guidelines (2021) recommend that post-operative 2D images and patient-reported outcomes (PROMs) are routinely collected.
Methods: From August 2019, women due for their year 3 or 5 surveillance mammogram at our Sutton site were contacted and invited to complete the BREAST-Q patient reported questionnaire using the online PROFILES portal and attend for medical photography. Results were presented to the oncoplastic MDT, including summary PROMs and illustrative case presentations. Free-text comments were shared with the relevant teams. Uptake and demographics are reported using descriptive statistics.
Results: Of the 649 women invited, 108 patients (16.6%) completed BREAST-Q questionnaires and the uptake of medical photography appointments was low. Median score for satisfaction with breasts was 75 (IQR 59 -100) for breast conservation, 46 (IQR 43 – 64) for simple mastectomy and 69 (IQR 47 – 86) for breast reconstruction patients.
Conclusions: Patient-reported outcome results are in line with published literature. Reviewing images and predominantly favourable free-text feedback was instructive for the teams. However, work is needed to identify barriers to patient participation and improve uptake to be representative of the overall patient population. Quantifying appearance in photographs would help summarise aesthetic outcome data.

P033

AN UNUSUAL CASE OF PRODIGIOUS GIGANTOMASTIA WITH MACROPROLACTINEMIA AND SUSPECTED AUTOIMMUNE DISEASE

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Introduction: Macroprolactinemia is characterized by most authors, as a benign condition with no clinical implications. Gigantomastia is progressive breast enlargement, usually bilateral. Due to its rare presentation, fewer numbers of cases have been reported and its association has yet to be fully established. It is generally presented during puberty and pregnancy and its association with hyperprolactinemia, macroprolactinemia, and autoimmune diseases are reported but in small numbers. Its management is improving the clinical symptoms and it varies from case to case.
Case Presentation: A 47 years old premenopausal woman with sudden onset of massive enlargement of the bilateral breast without galactorrhea over a period of 18 months. She also noticed joint pain and swelling in progression with her breast enlargement. She was referred to breast clinic for managing breast-related symptoms associated with gigantomastia like mastalgia, neck and back pain, postural issues, and recurrent breast skin eruptions. Her serum investigation showed Prolactin level of 1708mIU/L, and she was referred to an endocrinologist to rule out prolactinoma. She underwent bilateral breast reduction and a total of 12KG breast tissue from both breasts were removed she was further investigated for autoimmune diseases. The present report followed this patient from diagnosis, surgical intervention, and establishing its association with any other condition.
Conclusion: Although gigantomastia is an erratic condition and is a rare entity, its timely investigation and association to other clinical conditions like hyperprolactinemia or macroprolactinemia and arthritis are essential in the efficacious management of this condition. Gigantomastia outside the reproductive age group needs further research.

P034

PROSPECTIVE STUDY OF SPECIMEN IMAGING (SINGLE VERSUS 3 VIEWS) IN PATIENTS UNDERGOING BCS

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Introduction: Various clinical studies have established superiority of 3D specimen imaging over 2D imaging in assessing the margins. However, 3D imaging has limited availability and is cost intensive. Additional 2D images may be used as a cost-effective way to scrutinize resection margins. We wish to assess the impact of additional specimen faxitron images (Three views versus conventional single view) on intraoperative margin re-excision rates and postoperative margin positivity in patients undergoing breast conservation surgery.
Methods: Patients undergoing breast conservation surgery for breast cancer where faxitron images were warranted to assess margins were included in the study. Patients having therapeutic mammoplasty or local flap reconstruction were excluded. It is an ongoing study from August 2022. Interim analysis of first 35 patients was done. 3 views were taken by rotating the oriented specimen so that each margin is assessed. 1st view is standard antero-posterior (AP) view followed by 2 lateral views in different positions to assess all the 4 margins.
Results: Additional specimen x-ray views imaging results in further intraoperative re-excision in 3 patients i.e. 8.5% of patients and may reduce re-excision rates in 2.8% (1 patient).
Conclusion: Taking additional specimen x-ray images may be useful than conventional single image. However, more sample size is needed to draw the conclusion concretely.

P035

BONE SCANS IN BREAST CANCER: EXPERIENCE OF TWO NHS TRUSTS

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Introduction: Bone Scintigraphy Scans (MDP) are recommended in the context of bone symptoms in breast cancer. Evidence suggests that bone scans should not be routinely performed in the absence of symptoms. Rationale Audit of data from two NHS trusts regarding the use of MDP in the diagnosis of bone metastases in both symptomatic and asymptomatic patients.
Methods: Retrospective data collection for all MDP scans performed in breast cancer patients for 5 years in Trust A and in 2019 in Trust B.
Results: Trust A performed 28 MDP scans, of which 25% (n=7) patients were symptomatic. The residual 75% (n=21) were asymptomatic. Of 28 MDP scans, n=1 identified bone metastasis in a symptomatic patient, and this was apparent on staging CT. N=1 patient had confirmed bone metastases on CT that were not apparent on MDP. N=1 patient had negative MDP and CT but was later found to have bone metastases on PET-CT. Trust B performed 120 MDP scans, of which 15% (n=18) showed evidence of metastases and 94% of these (n=17) were evident on concurrent staging CT. N=2 patients had confirmed bone metastases on CT that were not picked up on MDP. Overall sensitivity for CT and MDP scans for confirmed bone metastases were 91% and 82% respectively; specificity was 99% for both.
Conclusion: Our data supports recommendations that bone scans are not routinely required for staging but rather as an adjunct in the context of equivocal cases and bone symptoms.

P036

VACUUM ASSISTED EXCISION: A POSITIVE IMPACT ON THE FASTER DIAGNOSIS STANDARD

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Introduction: Vacuum Assisted Excision (VAE) has made a significant difference in the diagnosis of early breast cancer by allowing larger tissue samples for histology and replacing diagnostic surgical biopsy, thus reducing surgical risks, general anaesthesia, healthcare costs and patient anxiety. The use of a radiological intervention rather than surgical affects radiology workflow however could assist in the maintenance of the 28-day faster diagnosis standard (FDS).
Methods: A retrospective audit of all patients undergoing VAE from 1st July 2021 to 30th June 2022, specifically looking at the upgrade to pre-invasive or invasive malignancy, and the needle size for VAB / VAE.
Results: 60 patients underwent VAE following biopsy (core or vacuum). No patients underwent diagnostic surgical excision for B3 lesions.

Table 1: Results following VAE for core biopsy with B3 with atypia / B3 without atypia

B3 with Atypia	pLCIS	DCIS	IDC	Unchanged	Unit Upgrade Rate	National Upgrade
24	2	5	0	17	7/24 = 29.1%	29.1%
B3 without atypia						
36	0	0	0	36	0%	13.3%

Conclusion: The use of VAE enabled 53 patients (88.3%) to avoid surgery. The unit B3 with atypia upgrade rate was equivalent to the national rate, supporting the unit best practice (7 gauge for VAE). Surprisingly, the B3 without atypia rate was 0%, well below the national rate (13.3%) although comparable to screening, and the total upgrade rate of 11.7% (national 16.5%). In our unit, all initial biopsies (core or vacuum) preferentially use a large bore needle (10 gauge) potentially allowing earlier diagnosis of malignancy rather than indeterminate B3. Overall, VAE in our unit allows us to fulfil the criteria of FDS and cancer waiting targets.

P037

SHORT TERM OUTCOMES OF ONCOPLASTIC BREAST SURGERY AT A TERTIARY CANCER CENTRE IN BANGLADESH

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Introduction: Oncoplastic breast surgery (OPS) is the preferred approach of treatment for many breast cancer patients with comparable surgical, oncological and survival outcomes. OPS has a huge potential in Bangladesh, but no study has been conducted to date to quantify the surgical, oncological, cosmetic, and quality of life (QoL) outcomes of OPS.
Methodology: This was a prospective study conducted among 48 consecutive patients with breast cancer at National Institute of Cancer Research & Hospital, Dhaka, who met the inclusion criteria for OPS from March 2021 to June 2022. Multiple socio-demographic, tumour, surgical outcome, cosmesis and QoL related data were collected and analysed using SPSS.
Result: Most patients had T2 and N1 disease (79.2%), with a median age of 40 years. The mean pathological tumour size was 20.38 (11.54 mm). 15% of patients had post-operative complications. Most of them had a good to excellent cosmesis with a median score of 13. 62.5% were highly satisfied with their body image. Post-operative complication was associated with body image (X^2= 4.227 (df=1); p = 0.039). Cosmesis had significant association with pre-operative T stage (X^2 = 4.785 (df=1); p = 0.028) and post-operative complications (X^2=5.296 (df=1); p= 0.021).
Conclusion: The study results suggest that OPS could be a feasible approach for Bangladeshi patients with a comparable surgical outcome, acceptable complication rate, excellent cosmesis and satisfactory quality of life, in short term, even in a resource-poor setting. Though, further randomised, multicentre studies with larger sample sizes and comparison groups are required to validate these findings.

P038

EXTREME ONCOPLASTY - DATA ON LOCAL RECURRENCE AT 24 MONTHS

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Introduction: BCS is emerging to be the standard of care in breast cancer surgery. Extreme oncoplasty allows for wider resection margins and using various oncoplastic techniques. It is an alternative to tumours which would otherwise warrant a mastectomy.
Aim: To assess the feasibility and local recurrence of Extreme oncoplasty in patients otherwise planned for mastectomy.
Methods: It is a prospective observational study done in 43 patients (October 2019 – September 2022) at IPGMER Breast-Clinic, India. Breast cancer patients who underwent BCS with one the following are included:
- Tumour size>5cm, even after NACT
- Multifocal disease
-No or partial response to NACT
-High tumour to breast ratio.
All metastatic disease patients or the patients who didn't give consent or in whom radiotherapy were contraindicated are excluded. Patients underwent Lumpectomy with oncoplastic reconstruction and received adjuvant radiotherapy and chemotherapy accordingly. Median follow up was 24 months.
Results: 34.88% patients had Luminal cancer,41.86% had TNBC and 25% were Her2-enriched. 25.58% had multifocal disease. 35(81.39%) patients had tumour size of >5cm among which 17(39.53%) patients had >7cm, while 18(41.86%) patients had tumour size between 5-7cm. Post-operative margins were free in 42 patients (97.6%). On follow up there were six local recurrence (13.95%) who underwent MRM. Out of 6 recurrences 5 had a tumour size >7cm.
Discussion: Extreme oncoplasty doesn't compromise on surgical margins and provided good cosmetic results with less psychological morbidity than mastectomy. It is helpful in countries like India where patients present late with large tumours and implants are expensive and not readily available. However, with recurrence rates of 13.95% especially for larger tumours (>7 cm) it is not acceptable and safety of it is questionable.

P039

COMPLETENESS OF RECORDING OF NEOADJUVANT CHEMOTHERAPY AND ENDOCRINE THERAPY ON THE PATHOLOGY FORM

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Introduction: Pathology request forms are an important means of communication between the breast surgeon and pathologist. Changes in histological features following neoadjuvant endocrine therapy (NET) and chemotherapy (NACT) may be prognostic and predictive of response to adjuvant therapies. It is essential that the pathologist is informed of the use of neoadjuvant therapy in all cases to allow the pathological reporting of response and inform the multi-disciplinary team of features that may alter adjuvant management and prognostication. We aim to determine completeness of recording of neoadjuvant therapy on the pathology form.
Methods: Theatre lists were retrospectively reviewed to identify all patients who had surgical management of invasive breast cancer or ductal carcinoma in situ in the Edinburgh Breast Unit over a 7-week period between August 2022 and September 2022. The medical record and pathology forms were reviewed.
Results: One hundred and thirty-five patients were identified. NACT was

given in 25 cases (18.5%) and was recorded on the pathology form in all cases. Thirty-nine patients (28.8%) received NET and this was recorded on the pathology form in 21 (53.8%) cases.
Conclusions: NACT use is well recorded. The use of NET is omitted in a large number of cases. This is an area of quality improvement focus and we have led departmental teaching and added a neoadjuvant therapy sticker to the pathology form with re-audit planned.

P040

POTENTIALLY BREACHING THE TOXIC LIMIT OF LOCAL ANAESTHETIC IN DAY CASE BREAST SURGERY

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Introduction: Wire-guided excisions (WGE) of breast tissue involves the insertion of a titanium wire under image guidance prior to surgery enabling localisation and removal of lesions. Three discrete clinical encounters require local anaesthesia (LA); wire insertion in radiology, regional anaesthetic blocks after induction and surgical closure. An initial audit showed that 79% of patients over an eleven-week period received a combined dose of LA that was above the maximum dosage in guidelines. Our aim was to re-audit our findings of LA used in WGE post-intervention.
Method: LA doses were analysed on patients undergoing WGE from August-October 2021. Our intervention included multi-disciplinary team agreement for reduction in lidocaine concentration from 2% to 1% by radiologists, and a poster to prompt reminders of LA calculations during theatre briefing. Completion of our audit loop involved analysis of LA usage in type, percentage, and dose compared against patients' weight and maximum dosage recommendations.
Results: During the second cycle, 38 patients underwent a WGE from 09/09/2022 to 03/11/2022. 4 patients were excluded from analysis. 17 patients (50%) received a total LA dose above the guidelines, potentially breaching the toxic limit. This is compared to 79% of patients in cycle 1. No adverse events were reported.
Conclusion: The application of simple interventions reduced the number of patients potentially receiving a LA dose which breached the toxic limit. Although the intervention has been effective, further work on timings of LA administration and alternative localization strategies may improve patient safety and lead to a safe standardized operating practice.

P041

IS RISK REDUCTION MASTECTOMY SAFE AFTER OVARIAN CANCER IN WOMEN WITH GBRCA VARIANT

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Introduction: Women with ovarian cancer (OC) and a BRCA1/BRCA2 genetic variant are at increased risk of developing breast cancer (BC). Evidence for long term outcomes in these patients who undergo bilateral risk reduction mastectomy (RRM) after ovarian cancer is sparse. The aim of this study was to analyse outcomes of women who have undergone RRM after OC.
Methods: Retrospective data collected for women identified from a genetics database diagnosed with ovarian cancer and BRCA1/BRCA2 variant between January 2010 and March 2020 included: patient demographics, ovarian and breast cancer diagnosis and treatment details, prophylactic breast surgery details for patients who did not have breast cancer and follow up for all patients. Descriptive statistics were used.
Results: 148 women were diagnosed with OC and BRCA1/2 variant in study period. 47 patients were excluded as they did not have treatment at our institution. Out of 101, six (7.2%) patients underwent RRM after treatment for OC. 3 patients had FIGO stage1 OC, 1 had stage2, 1 had stage3 and 1 had stage4 OC. Median time from OC to RRM was 41 months (19-79). Two had no reconstruction, two had implant-based and two had autologous reconstruction. One patient returned to theatre for debridement of necrotic flap within 30 days. Pre-operative staging was done in 4 and not recorded in 2 patients. None had breast cancer on post op histology. One patient had an ovarian recurrence treated and currently all patients are disease free (median follow-up 30 months).
Conclusion:RRM can safely be undertaken in selected patients with favourable OC prognosis.

P042

COMBINED COST-UTILITY ANALYSIS OF THE 21-GENE ASSAY TO GUIDE CHEMOTHERAPY IN HR+/HER2- BREAST CANCER

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Introduction: Having the Recurrence Score (RS) result using the Oncotype DX test (21-gene assay) for patients with node-positive (N1, 1-3 nodes) and a subset of node-negative tumours (intermediate clinical risk, and patients with grade 2, T1c tumours) can help reduce both harmful under- and over-treatment with chemotherapy. The cost-effectiveness of the Oncotype DX test in this combined population was assessed from an NHS and personal social services perspective.
Methods: A decision-analytic model was informed by literature and audit data. Probability of receiving chemotherapy with and without the Oncotype DX test was obtained from registries in the UK and Israel. Probability of distant recurrence over a lifetime was derived from the TAILORx, RxPONDER, NASBP B-20 and B-14 studies. The incremental cost-effectiveness ratio (ICER) for the Oncotype DX test compared to clinicopathologic risk assessment alone was presented in terms of cost per quality-adjusted life-year (QALY) based on the NHS list price.
Results: The Oncotype DX test was more effective and cost-saving compared to clinicopathologic risk assessment alone. Detailed results are presented in Table 1.
Conclusions: The Oncotype DX test represents a cost-effective option for the NHS by reducing both under- and overtreatment with adjuvant chemotherapy, reducing the cost of treatment and helping to avoid distant recurrence events which are associated with a high burden for the patient and the health system.

Table 1

Population	Δ Cost	Δ QALYs	ICER
N0 Grade 2 T1c	£1,864	0.093	£19,943
N0 intermediate risk	-£1,403	0.210	Dominant
N1	-£979	0.024	Dominant
Combined	**-£106**	**0.109**	**Dominant**

P043

MAGSEED LOCALISATION OF PATHOLOGICAL AXILLARY LYMPH NODES FOR TARGETED AXILLARY DISSECTION

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Introduction: Targeted axillary dissection allows less invasive surgery in the node positive axilla. Abnormal nodes are biopsied, marked with a clip, then localised ahead of surgery. We adopted magseeds to localise such nodes, in keeping with our practice for localisation of impalpable breast lesions. Magseed targeted axillary dissection (mTAD) involves retrieving the localised node plus other sentinel nodes identified by standard dual tracer sentinel node biopsy. Here we review our experience of our first 20 months of practice.

Methods: Single centre review of practice February 2021 - November 2022. mTAD cases identified from prospectively maintained theatre schedule. Pathology and radiology data retrieved by electronic patient record review. Data collated and analysed in Microsoft Excel.
Results: 52 patients were planned for mTAD. In 3 localisation failed, as the clipped node was not identified. 49 patients had mTAD, all of whom had an ultraCOR twirl clip placed at initial biopsy and successfully identified for localisation.
25/49 had surgery as their first treatment. 24/49 had mTAD following neoadjuvant systemic chemotherapy +/- HER2 treatment.
In 48 of 49 (98%) patients the magseed was successfully retrieved. In 1 the magseed had migrated into the superior axilla and was not found. In all 49 patients the pathological clipped node was retrieved. The median number of nodes removed was 4 per patient, range 2-11.
Conclusions: mTAD is a reliable technique to retrieve a pathological axillary lymph node, allowing less invasive surgery in the node positive axilla. We hope this will in turn translate to less morbidity from treatment for node positive patients.

P044

SAFETY OF OMISSION BIOPSY IN WOMEN AGED < 25 YEARS WITH TYPICAL FEATURES OF BENIGN FIBROADENOMA

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Introduction: As the UK incidence of breast cancer in females aged < 25 is low, our unit follows the imaging criteria by the Royal College of Radiologists, described by Stavros/Maxwell et al, and omits biopsy for a breast lump for <25 years old with typical features of fibroadenoma. Our aim is to use postoperative histology results to determine if this practice is safe.
Methods: A retrospective cohort study was performed for patients <25 years with registered pathology specimens. Clinical, radiological and histological data (core needle and surgical excision biopsy) was obtained from hospital records.
Results: Over 10 years (01/12-12/2021) breast pathology specimens were obtained from 242 patients < 25 years old. 153 had surgical excision of a breast lump, of these 80 had upfront surgery without prior biopsy and 73 had core biopsy prior to surgery due to the presence of atypical features. Of the patients who went straight to surgery, post-operative pathology revealed 75 fibroadenoma, 1 breast cyst, 1 hamartoma and 4 benign phyllodes. Of the patients who had an upfront core biopsy, post operative pathology revealed 53 fibroadenoma, 2 intraductal papilloma, 14 benign Phyllodes and one was borderline. 2 DCIS and 1 invasive cancer.
Conclusion: No cancer was missed during using recommended standardized clinical and sonographic criteria in patients <25 years old, however a few benign phyllodes were unexpected. Core biopsy is not 100% accurate in determining a diagnosis between fibroadenoma and phyllodes and hence an indication remains for the excision of breast lesions with atypical features in <25years.

P045

INFLAMMATORY BREAST CANCER – DOES POST-NEOADJUVANT THERAPY BREAST MRI CHANGE SURGICAL MANAGEMENT?

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Introduction: Standard management of inflammatory breast cancer (IBC) is neoadjuvant chemotherapy (NACT), total mastectomy and axillary node clearance (ANC) followed by adjuvant radiotherapy. Royal College of Radiologists (RCR) guidelines recommend MRI at baseline and end of treatment to aid surgical planning. This audit assesses the proportion of patients with IBC undergoing pre- and post-NACT MRI and final surgical management.
Methods: Retrospective review of breast MRI scans for patients undergoing NACT for IBC between 2014 and 2022. Pre- and post-NACT MRIs were audited against the RCR guidelines. Response to NACT and the surgical management were ascertained. Audit department approval was obtained.
Results: 33 patients had MRI for IBC. 31 patients received NACT. 29 proceeded to surgery, of which 25 (86%) had a post-NACT MRI. This demonstrated complete or excellent response in the breast 8/25 (32%) and 14/25 (56%) in the axilla. 25/29 (86%) patients underwent mastectomy. 3 (10%) patients had breast conserving surgery (BCS) of whom 2 had a very good or complete radiological response in the breast and 1 in whom the pre-NACT MRI was not in keeping with IBC despite clinical appearances. 1 patient had a skin sparing mastectomy and immediate reconstruction following a partial response in the breast. 25/29 (86%) patients had ANC. Pathological complete response in breast and axilla was observed in 6/29 (20%).
Conclusion: Post-NACT MRI does not change surgical management in nearly all cases of IBC. Further consideration should be given to whether post-NACT is necessary in all patients who are planned to undergo mastectomy.

P046

KELOID SCARRING IN BREAST SURGERY PATIENTS WITH BLACK AND BROWN SKIN: A NEW MANAGEMENT ALGORITHM

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Introduction: Challenging management of keloid scarring is prevalent amongst women of colour at our ethnically diverse Breast Unit at Croydon Hospital. Apart from being cosmetically disfiguring, keloid can produce itching, pain and considerable impairment on psychosocial wellbeing. This study proposes the development of a new treatment algorithm to guide the management of keloid scarring in all women undergoing breast and oncoplastic surgery who are at high risk of this complication.
Methods: A literature search was performed using MEDLINE, EMCARE, PUBMED and the Cochrane database for all journal articles on the post-operative presentation and management of keloid scarring in the breast in both the benign and cancer setting.
Results: Keloid scarring following breast surgery remains aesthetically unsatisfactory for many women of colour which contributes to lower rates of patient satisfaction and psychosocial wellbeing. Immediate wound care methods and multimodal treatments have produced improved cosmetic outcomes and reduced recurrence rates. Current therapies include pressure therapy, surgical excision, low level radiotherapy and various pharmaceutical drugs. Intralesional cryotherapy, chemotherapies and immunotherapies can also play a role in its management. There is significant overlap between breast cancer treatment and keloid management which is often overlooked.
Conclusion: Our new treatment algorithm acts as guide for clinicians in reducing the risk of keloid scarring and its management once established. It also highlights the focus and care that needs to be paid to the diversity of our community to ensure that women of colour are receiving the best standard of care both oncologically and aesthetically throughout their breast cancer journey.

P047

PATIENT SATISFACTION & QUALITY OF RECOVERY WITH AMBULATORY SERRATUS PLANE CATHETER AFTER MASTECTOMY

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Introduction: Ambulatory serratus plane infusion pump (ASPIP) after mastectomy is a new method to provide analgesia, early mobility, and

patient satisfaction. This is a service evaluation of ASPIP in mastectomy patients at FPH. Primary objectives were overall satisfaction (OS), quality sleep and recovery. Secondary objective was day-case rates of mastectomy with or without immediate reconstruction.
Methods: Catheter was placed by surgeon intraoperatively. Levobupivacaine infused at 6ml/hr for 48-72 hours. Numerical rating scale (NRS) and QoR-15 tool were used to assess postoperative pain and quality of recovery, respectively. OS, sleep quality, and recommendation of catheter were collected. Data presented using descriptive statistics. Approval of Audit & Quality Improvement department was obtained.
Results: 35 patients were included over 8 months. Mean NRS at rest and on movement were: 1.77 vs 2.49, 2 vs 2.88, and 1.84 vs 2.3 out of 10 on POD 1, 2 and 3, respectively. QoR-15 scores reported as median (quartiles) were 145 (136, 147) preoperatively and 135 (126.5, 143) postoperatively, with a median difference of -3 (-9 to 3 95% CI). Sleep disturbance was observed in 4,5 and 4 patients in the first 3 days, respectively. Mean OS with the catheter was 9.25/10 (SD 1.18). All patients would recommend the catheter to other patients. Day case rate for mastectomy was 79% and for mastectomy and immediate implant reconstruction was 44%.
Conclusion: ASPIP is an effective and safe method of managing postoperative pain after mastectomy with positive patients' experience. As part of an enhanced recovery pathway, it can also increase day case rates.

P048

THE MANAGEMENT OF BONE HEALTH IN BREAST CANCER PATIENTS ON AROMATASE INHIBITORS

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Aromatase inhibitors form a key part of adjuvant endocrine treatment for post-menopausal women with hormone receptor positive breast cancer. Current guidelines suggest identifying at-risk patients with a baseline Dual-Energy X-ray Absorptiometry (DEXA) scan within 6 months of commencing treatment, and for patients to be treated according to their T-score. Following local audit approval, 59 breast cancer patients who had commenced an aromatase inhibitor in our trust were selected and adherence to guidelines was assessed. Our intervention involved delivery of an educational session at a departmental meeting. We then conducted a re-audit of 20 patients who had been newly prescribed an aromatase inhibitor since our intervention. 83.05% of patients in our first cycle had a baseline DEXA scan, and 66.1% had their scan within 6 months of commencing treatment - re-audit has shown an improvement of 10% in this figure. Of those who had their DEXA scan, 51.2% were found to have osteoporosis, and 29.2% of patients were found to have osteopenia. Of those found to have osteoporosis, 76.2% received Bisphosphonates, and of those found to have osteopenia, 83.3% received Calcium and Vitamin D supplementation. Our results emphasise the importance of assessing and managing bone density in this patient group and show that providing educational sessions forms an effective strategy in improving compliance to guidelines. Although the results from our re-audit are encouraging, we would like to consider other methods to further improve on this, such as streamlining patients who need a DEXA scan to a single trust.

P049

OPERATIVE SALVATION OF BREAST IMPLANT INFECTION: A SINGLE-CENTRE EXPERIENCE

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There is minimal evidence for operative breast implant salvation for infection with re-insertion of the original implant following cavity washout. This study aimed to review our implant infection cases and analyse the effectiveness of this strategy in our centre. A retrospective review was undertaken of all 1-stage or 2-stage breast reconstructions over the last 15 years. Patients who returned to theatre for an implant infection-related complication were included in this study. The rate of implant salvation vs loss was analysed, and patient characteristics of these groups were reviewed. Of 324 patients, 27 patients (29 breasts) returned to theatre. 12 implants were salvaged (44%) with the remaining 15 (56%) losing their implant. Pulsed lavage was used in three patients, and was successful in two (66%). Age, smoking status, BMI and diabetes were similar between the two groups ($p=>0.05$ for all). Average mastectomy size and implant volume were not different between the groups ($p=0.63$ and $p=0.52$ respectively). Six patients in the salvaged group underwent neoadjuvant chemotherapy, with two patients undergoing adjuvant chemotherapy ($p=0.26$ and $p=0.99$). Nine patients of the salvaged cohort underwent radiotherapy, with no difference to the non-salvaged cohort ($p=0.42$). All salvaged implants were functioning at 3 months post-operatively. Operative salvation poses a safe and effective method for infected breast implants, with a 44% success rate in this series. By avoiding an implant loss there are both psychological benefits to the patient and potential cost-benefits in avoiding implant replacement. This approach was not affected by neo-adjuvant chemotherapy, radiotherapy or patient demographics.

P050

BREAST SYMPTOMATIC SERVICE: REFERRAL NUMBERS AND CANCER DIAGNOSES BY AGE AND SEX IN ENGLAND 2019/20

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Introduction: The breast symptomatic service is stressed, with increasing numbers of patients referred and only two out of three receive timely assessment. Careful, informed triage of referrals is needed to safely manage increasing volumes. Using data from the National Cancer Registration and Analysis Service (NCRAS), we report on referral rates and cancer diagnoses by age and sex in England in 2019/2020 to inform and improve service delivery.
Methods: A bespoke national dataset was obtained from NCRAS. Urgent and routine referral rates were separately calculated for women and men in aggregate age bands, using denominator population estimates of women and men aged ≥16 years and resident in England from the Office for National Statistics. The diagnostic cancer rate was calculated as the proportion of the referrals that resulted in a cancer diagnosis.
Results: Overall, the highest urgent and routine referral rates were observed in women aged 30-49. Urgent and routine referrals in women aged <30 have a cancer diagnostic rate of <1%. Older women aged >70 have lower referral rates, but with high cancer rates for both routine and urgent referrals. Men at all ages have a low risk of a cancer diagnosis following either urgent or routine referral See Table 1.
Conclusions: Triage in primary care results in lower cancer diagnostic rates for routine compared to urgent referrals. Routine referral pathways can be utilised for all women aged <30, and for men. Conversely, urgent referral pathways should be considered in all women aged >70 years. Breast referral management remains a substantial challenge.

P051

AUDIT OF BREAST ULTRASOUND PERFORMED BY BREAST SURGEONS IN OUTPATIENTS IN A SMALL COUNTY HOSPITAL

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Introduction: To assess the accuracy of breast ultrasound performed by surgeon in outpatients compared to the one done by the radiologist following their guidelines from Royal College of Radiologists.
Methods: A retrospective study of 100 patients with (asymptomatic/symptomatic breast disease) was performed from 2020. The data was compared to audit done by the radiologist (159 patients). There was random picked of 100 cases discussed at the local MDT where the scan was

performed by the surgeon and core biopsy has been taken. All cases had allocated a P, U, R, B value (1-5). On imaging were split in 3 groups (benign, indeterminate, malignant)
Results: Radiologist ultrasound - results. There was a very good correlation between U and B value: 90.9% (60/66 patients) had indeterminate/malignant looking ultrasound confirmed by the biopsy and 97.8% (91/93 patients) had benign looking ultrasound confirmed by the biopsy. Surgeon ultrasound - results. When U3 value given - cores (Benign - 19 cases (50%) Indeterminate - 6 cases (15.8%) Malignant - 13 cases (34.2%). U4 value given - cores (Benign/ Indeterminate - 0 cases Malignant - 24 cases (100%)). U5 value given - cores (No Benign/Indeterminate cases, Malignant - 12 cases).
Conclusions: Good correlation between the "U" value given by surgeon and "B" value from core biopsies. All the "U4-5" values given by surgeon had proven cancer on core biopsies. Ultrasound and biopsies performed by surgeons in clinic is safe and accurate, similar to the one done by the radiologist. No U3 value or above given by surgeon have come back DCIS/ invasive cancer.

P052

REDUCING POST MASTECTOMY SEROMA USING CLOSED INCISION NEGATIVE PRESSURE WOUND THERAPY

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Introduction: It is becoming common practice to perform simple mastectomy surgery without a drain. This has contributed to an increased rate of postoperative symptomatic seromas, leading to a greater resource burden in clinic for assessment and aspirations. The aim of this study was to establish whether closed incision negative pressure therapy (ciNPT) reduces the need for seroma intervention and total seroma volumes.
Methods: In this single centre prospective case-control trial, seroma data was collected for patients undergoing simple mastectomy +/- axilla surgery. The control arm comprised 30 sequential patients with conventional dressings placed between December 2020 and May 2021, and the intervention arm comprised 25 sequential patients with ciNPT with full-coverage foam dressings between August 2021 and January 2022.
Results: There were 31 mastectomy cases in each arm (including bilateral cases). There was no significant difference in axilla surgery type between groups. In the control group, 16 patients (51%) required at least one aspiration, versus 12 (39%) in the intervention group. Those in the intervention group required fewer visits to the seroma clinic (0.8 versus 2 visits, respectively; p=0.012) and had lower total aspiration volumes (368 mL versus 843 mL, respectively; p=0.023) than those in the control group.
Conclusion: Overall, ciNPT cases had significantly lower seroma-related interventions and a lower mean total seroma volume. These finding suggest that ciNPT should be considered in patients who may be higher risk for developing seroma problems post-operatively.
Trademarks: 3MTM Prevena RestorTM BellaFormTM Dressing, 3M, St. Paul, MN

P053

EARLY UK EXPERIENCE OF PINTUITION LOCALISER DEVICE WITHIN A REPRESENTATIVE LARGE UK BREAST UNIT

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Introduction: There is an increasing move towards seed-based localisation. A few devices have emerged, supported by national multicentre data that show non-inferiority with wire guidance but with improvements regarding scheduling logistics and patient experience. Sirius Pintuition is a novel, magnetic seed-based device, that due to its proprietary technology, allows accurate location of the seed with onscreen distance in millimetres and spatial target guidance (GPSDetect).
Methods: Women with impalpable lesions were recruited for seed localisation prospectively into this cohort service evaluation study from August 2022 (audit ID: 5406 QIP). The primary outcome was identification rate of the index lesion. Secondary outcomes included reoperation rate, safety, specimen weight and complications.
Results: 42 patients underwent seed guided breast conserving surgery in our unit from Aug 22-Nov 22. 13 (30.9%) patients had stereo-guided seed localisation in comparison to ultrasound guided in 29 (69%) patients. 5 patients were post neoadjuvant chemotherapy. Index lesion was identified in 41 patients (97.6%), 1 patient had complete response post NACT, 1 patient had all DCIS removed during biopsy. 9 patients (21.4%) underwent reoperation for re-excision of margins. In 3 patients the seed got dislodged during the operation. Mean weight of the main specimen was 37gm.
Conclusion: Our initial results demonstrate that Pintuition (Sirius Medical) is a viable seed localiser device. Benefits include that the seeds are cheaper than alternatives and the device gives helpful onscreen guidance with high level of accuracy. Larger numbers are required to truly compare this device to the other more established devices and a multicentre study is ongoing (iBRA-NET localiser.

P054

LIPIDOMICS IN BREAST CANCER**AJIT SINGH OBEROI[1], S.V.S. DEO[2], SANDEEP BHORIWAL[2], D.N. SHARMA[2], AJAY GOGIA[2], SANDEEP MATHUR[2], UJJAINI DASGUPTA[3].** [1]*NORTHERN CARE ALLIANCE NHS TRUST, MANCHESTER, UK;* [2]*ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI, INDIA;* [3]*AMITY INSTITUTE OF INTEGRATIVE SCIENCES AND HEALTH, MANESAR, HARYANA, INDIA*
Introduction: Altered sphingolipid-metabolic pathway has emerged as a common phenomenon in breast cancer (BC) pathogenesis. However, these alterations are yet to be translated into robust diagnostic and prognostic markers for cancer.
Materials and methodology: We recruited 22 BC patients (stage 1-3) belonging to luminal-A (LA) and Triple-Negative Breast Cancer (TNBC) subtypes (11 each) after ethical approval (IE-332/01.07.2016). We noted the dysregulations in different classes of sphingolipids (Ceramide-1-phosphate and Sphingosine-1-phosphate) in tumours in comparison to adjacent normal tissue by a seven-sphingolipid signature using targeted liquid chromatography mass spectrometry. We also compared the sphingolipid profile of LA and TNBC tumours that provided a unique seven-sphingolipid signature distinguishing the two subtypes. Mean values were compared by the one-way ANOVA/Kruskall Wallis test.
Results:
Ceramide-1-phosphate species (C1P)
*Luminal-A:*All species were significantly higher in the tumour tissue except C1P 16:0 (P<0.05).
*TNBC:*No significant difference between tumour and adjacent normal tissue (P>0.05).
*Luminal-A vs TNBC tumours:*TNBC showed 31-59-fold lower ($p < 0.0001$) levels of C1P species as compared to luminal tumours.
Sphingosine-1-phosphate (S1P)
There was significant difference between tumour tissue and adjacent normal in both Luminal-A and TNBC breast cancer patients (P>0.05).
*Luminal-A vs TNBC tumours:*No significant difference was found amongst them (P-0.2).
Conclusion: Sphingolipid metabolism is altered in tumour tissues and sphingolipid profile of tumours especially C1P levels are a promising tool to differentiate LA and TNBC tumours. There is a need to validate these sphingolipid-based markers in a bigger cohort and develop them to be equivalent to other already established markers.

P055

LOW-LEVEL BREAST TRAUMA FOLLOWING ROAD TRAFFIC COLLISION: THE NEED FOR A NATIONAL AUDIT

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Introduction: Despite its impact on quality of life and appointment burden on the NHS, there is little information on low-level breast trauma, e.g., breast pain following road traffic collision. Frequency, impact on quality of

life, medicolegal implications, cost to the health service and socio-economic cost, in terms of time off work, have been grossly under-reported.
Methods: In July 2022, searches were carried out on EMBASE, MEDLINE and PUBMED using search terms: Breast injury AND traffic accident; Breast trauma AND traffic accident; Breast trauma OR breast injury AND seatbelt. A separate search was done on Westlaw, a legal database.

Table 1

	Invasive Ductal(%)	Invasive lobular(%)	Other Histology(%)	Grade 1(%)	Grade 2 (%)	Grade3(%)	Her2 -ve(%)	Her2 +ve	ER+ve	ER-ve
Non Metastic Group	205 (76%)	36(13%)	17(6%)	12(4%)	150(55%)	93(34%)	227 (84%)	44(16%)	189(70%)	82(30%)
Metastatic Group	55 (72%)	10(13%)	2(2%)	2(3%)	44(58%)	23(30%)	60(79%)	16(21%)	58(76%)	18(24%)

Indication	Number (%)
Previous Cancer	104 (30%)
T3 or More or Locally advanced	92(27%)
Axillary lymph node burden	48 (14%)
Neoadjuvant Treatment	67 (19%)
Symptom Directed	26 (7%)
Other	3 (0.8%)

Results: 312 articles were found - 231 via medical databases and 81 using Westlaw. When screened for suitability, 42 articles were included (32 and 10 from the medical and legal databases, respectively). Sequalae of trauma included haemodynamic instability, breast distortion, breast lumps, breast pain and skin changes. Additionally, there were implications for the patients' quality of life. 9 cases outlined compensation given. On average, this amounted to £4,361.11, with a range of £1,350 to £14,000. However, these cases were biased towards the low trauma, less dramatic cases leaving the likely majority of breast cases underrepresented.
Conclusion: Low-level breast trauma, including its socio-economic and medico-legal implications, is grossly underrepresented in the literature. We propose that a national audit of post-traumatic breast pain be undertaken to determine the frequency of these presentations to the breast clinic, their repercussions on the patient's quality of life and cost to society, to guide clinical practice and medicolegal proceedings.

P056

A RETROSPECTIVE COHORT STUDY OF STAGING INVESTIGATION IN EARLY BREAST CANCER OVER PERIOD OF 5 YEARS

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Introduction: There is lack of clarity on indications for staging investigations in early breast cancer patients. Furthermore, there is heterogeneity in the type of imaging used for staging. Lack of standardized reporting language by radiologists can trigger further investigations with potential delay in definitive treatment and increased patient anxiety. Our aim in this study is to analyse the indications for staging investigations and its impact on further treatment.
Methods: Retrospective Cohort study of staging investigations in patients with early breast cancer in a district general hospital between January 2016 and December 2020. Data was collected from patient notes, radiology PACS system and online patient portal. In addition to patient demographic data, data on tumour characteristics, staging investigations, histology, follow up scans were collected.
Results: Total of 347 patients were included. 78% (N=271) of patients did not have any distant metastasis. 22% (N=76) were found to have distant metastasis. Median age in the non-metastatic patient group was 64 years and it was 67 years in metastatic patient group. Majority of patients (N=280) were from symptomatic pathway. See table 1.
33% of patients (N=116) who had initial staging investigation needed further imaging. 24% (N=66) of patients in the non-metastatic group needed further imaging. 14% (N=48) patients had delay in definitive treatment See Table 1.
Conclusion: Significant proportion of patients who had staging investigation needed further imaging before commencing definitive treatment with associated cost implications and patient anxiety. Study highlights the need for guidelines on indication and type of staging investigations in early breast cancer patients.

P057

IS NIPPLE DISCHARGE CYTOLOGY STILL A RELEVANT TOOL IN MANAGEMENT OF BREAST DISEASE?

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Introduction: Nipple discharge is the third most frequent complaint of women attending one stop clinics. In current practice, nipple smear cytology, when available, is an important diagnostic tool in addition to triple assessment in assessment of breast diseases. We proceeded to find its relevance by correlating with the final histology following surgery.
Methods: Data from a single institution was sought from July 2011 to April 2020. Patients included in the study presented to the symptomatic clinic with pathological nipple discharge; uniductal or bloody discharge. Records were analysed for patient age, cytology, clinical examination, imaging, follow up and final histology. Only C3/C4/C5 patients were included in final analysis, as majority had surgery with final histology available.
Results: 224 patients were identified, and 64 with cytology C3-5 were included, average age 56 (range 15-96). 27 (42%) patients had bloody nipple discharge and 24 patients had non-bloody nipple discharge, with clinical details missing for 16 patients. 3 were male patients. Full results shown in table below:
Conclusion: Although nipple cytology is now practised less commonly, with only a few UK centres regularly reporting, it can be an easy, cheap, quick and complementing tool to triple assessment in one stop breast clinic.

Cytology	Number of Patients	Number aged ≥40	Mammogram available	Ultrasound available	Further intervention with histology	Final Pathology:Benign	Final Pathology:Malignant
C3	57	44	31	35	33	24 (72%)	9 (27%)
C4	5	5	4	4	5	2 (40%)	3 (60%)
C5	2	2	2	2	2	1 (50%)	1 (50%)
Total	**64**	**51**	**37**	**41**	**40 (63%)**	**27 (68%)**	**13 (32%)**

P058

A SYSTEMATIC REVIEW AND META-ANALYSIS OF TOUCH IMPRINT CYTOLOGY AND FROZEN SECTION BIOPSY

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Introduction: Evaluation of axillary lymph nodes after sentinel lymph node biopsy (SLNB) in breast cancer is mostly done by intraoperative frozen section biopsy (FSB) and/or touch imprint cytology (TIC). In this systematic review and meta-analysis, we have compared the accuracy of the two modalities.
Methods: PubMed, EMBASE, and Cochrane electronic databases were searched for articles comparing TIC with FSB. Articles were assessed for methodological and reporting quality. The main summary measures were pooled sensitivity, pooled specificity and diagnostic accuracy using bivariate generalized linear mixed models using random effects.
Results: Fourteen studies were included. The pooled sensitivity, specificity and diagnostic accuracy for FSB was 78%, 100% and 98.57%. For TIC, the pooled sensitivity, specificity and diagnostic accuracy was 74%, 98% and 98.37%. For both methods, visual inspection of summary ROC curves and of forest plots did not show significant heterogeneity.
Conclusion: TIC showed comparable sensitivity, specificity and accuracy to FSB and hence can be used as its substitute as a rapid and economical test for the detection of axillary lymph node metastasis during SLNB especially in low resource settings.

P059

ECONOMIC ANALYSIS ON THE USE OF CLOSED INCISION NEGATIVE-PRESSURE THERAPY IN DRAINLESS MASTECTOMIES

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Aim: The aim of this economic analysis is to investigate whether ciNPT with wide-coverage foam dressings reduces the rate of seroma related post operative resource costs, following a drainless mastectomy when compared with standard of care (SOC).
Method: A hypothetical cost-benefit model was applied to clinical outcomes of a previous non-randomised prospective case-control trial, comparing the use of closed-incision negative-pressure therapy (ciNPT)* and standard of care (SOC) over breast incisions following No-Drain Mastectomy.
Results: The previous, non-randomised case-control trial included prospectively collected data on 62 breasts in each treatment group (ciNPT = 31, SOC = 31). Twenty patients in the SOC group and 15 patients in the ciNPT group returned to the clinic for postoperative seromas. The mean number of aspirations per patient in the SOC group was 2 (range 0-10), compared with a mean of 0.8 (range 0-4) in the ciNPT group. This difference is statistically significant (p=0.023). A cost-benefit analysis showed the ciNPT group had a per-procedure cost reduction of £215.91, related to the reduced mean number of seroma aspirations in the outpatient care setting. The mean average cost of a patient undergoing a hand-led or ultrasound guided seroma aspiration was referenced as £411.80.
Conclusion: The preliminary findings of the economic analysis show a potential resource saving with the use of ciNPT over breast incisions compared with standard of care following No-Drain Mastectomy. Trademarks: *3M™ Prevena Restor™ BellaForm™ Incision Management System, 3M, St. Paul, MN.

P060

COVID-19 PANDEMIC IMPACT ON IMMEDIATE IMPLANT BASED BREAST RECONSTRUCTION OUTCOMES - COVIBRO AUDIT

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Introduction: New guidelines by The Association of Breast Surgery to advise on management of breast diseases and immediate breast reconstruction were implemented in March 2020 due to Covid-19 pandemic. This is a single centre service audit during the peri-pandemic period.
Methods: Hospital electronic data on early (3 months) and delayed (one year) outcomes for immediate implant breast reconstruction during COVID-19 pandemic (March 2020 - February 2021) were collected and compared to pre-COVID-19 pandemic (March 2019 - February 2020). These outcomes: Infection, Readmission, Reoperation, and Implant loss, were benchmarked against the National guidelines/Studies i.e.; NMBRA, Quality Standards for OPS, I-BRA and Pre-BRA Studies. All reconstructions were pre-pectoral with either expanders/implants and TiLoop mesh +/- Dermal sling.
Results: Comparable results were observed, within the national guideline figures, for early (Table 1) and delayed outcomes (Table 2) during pre and Covid-19 periods. The outcomes were above the quality standards only in Pre Covid-19 early period , while Covid-19 early and late outcomes were above it except for infection.

Table 1

Outcomes	NMBRA (%)	Quality Criteria-QC (%)	IBRA (%)	Pre-BRA (%)	Early COVIBRO 19/20-N=28(%)	Early COVIBRO 20/21-N=18(%)
Infection	25	<10	25	<20	3(10.7)	1(5.5)
Readmission (QC17)	16	<5	<18	<18	2(7.1)	1(5.5)
Reoperation (QC16)	5	<5	<18	<16	2(7.1)	1(5.5)
Implant loss (QC15)	9	<5	<9	<9	2(7.1)	1(5.5)

Table 2

Outcomes	NMBRA (%)	Quality Criteria-QC (%)	Late COVIBRO 19/20 - N=28 (%)	Late COVIBRO 20/21 - N=18 (%)21
Infection	25	<10	0(0)	0(0)
Readmission (QC17)	16	<5	1(3.5)	1(5.5)
Reoperation (QC16)	5	<5	1(3.5)	1(5.5)
Implant loss (QC15)	9	<5	1(3.5)	1(5.5)

Conclusion: Audit confirmed compliance with national guidelines. This single centre study, though low number, suggested resilient safe service during the pandemic. A national audit would consolidate the result and re-enforce the guidelines.

P061

WOULD A BREAST MRI HELP SURGICAL PLANNING FOR PATIENTS WITH PAGET'S DISEASE OF THE BREAST?

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Paget's disease of the breast (PD) can be associated with underlying invasive or in situ cancer disease. The Royal College of Radiologists recommends breast MRI if considering breast-conserving surgery. A review of patients with PD treated at Warwick Hospital was undertaken to see if conventional imaging was adequate and would the addition of breast MRI be of benefit.
Methods: Retrospective review of patients treated for PD in Warwick Hospital from 2011 to 2022. Patients' imaging, type of operation, and final histology reports were reviewed.
Results and discussion: Ten patients were eligible for review, and all had mammogram (+/-ultrasound), but not an MRI. Three patients had

microcalcification on imaging. In total five patients including these three underwent a mastectomy. Histology confirmed DCIS in three patients with abnormal imaging; one patient had unexpected DCIS. The remaining five patients who had normal imaging underwent breast-conserving surgery. Four patients had underlying DCIS in histology. One of them had involved margins requiring completion mastectomy, showing residual disease. Reports suggest the sensitivity of breast MRI for identifying DCIS is up to 92% compared with only 56% by mammography (Kuhl et al). In our series, mammogram underreported the DCIS with a sensitivity of 37.5% only (5 false negatives out of 7 cases).
Conclusion: In our small series, the addition of breast MRI would have helped in picking up underlying DCIS not seen on conventional imaging and aided surgical management in 5/10 (50%) of cases. However, it would be interesting to review a larger series.

P062

MAGSEED LOCALISED TAD FOR NODE POSITIVE PATIENTS FOLLOWING NEOADJUVANT CHEMOTHERAPY IN GLASGOW

Louise Magill [1], Abigail Ingram [2], Rahee Mapara [1], Katherine Duncan [3], Sayria Javed [1], Laura Arthur [3], Sophia Sakellariou [1], James Mansell [1], Jennifer Campbell [3], Archana Seth [1], Joseph Loane [1], Christopher Wilson [1], Julie Doughty [1], Laszlo Romics [1]. [1] *Gartnavel General Hospital, Glasgow, UK, NHS Greater Glasgow and Clyde, Glasgow, UK;* [2] *University of Glasgow, Glasgow, UK;* [3] *Royal Alexandra Hospital, NHS Greater Glasgow and Clyde, Paisley, UK*

Introduction: Magseed localised targeted axillary dissection (mTAD) is associated with decreased false negative rates in patients with node positive disease undergoing neoadjuvant chemotherapy (NAC). We examine the outcomes for mTAD across 2 units in Glasgow.
Methods: All patients undergoing NAC for node positive disease suitable for mTAD between February 2020 and September 2022 were identified. Clinicopathological outcomes were recorded using electronic patient records. Statistical analysis was performed using Chi Square test using GraphPad Prism8.
Results: 50/55 patients had biopsied node clipped and 48/49 the clipped node was retrieved (1 unknown). Median number of nodes removed between mTAD (4.0) vs non magseed localised TAD (4.5) procedures was comparable (p=0.286). Magseed was found in node in 40/50, but it could not have been inserted as the clip was not visualised in 5/50, and it was outwith the node in 5/50 (close to node in 3, far from node in 2). Hence, magseed localisation failed in 20% (10/50) cases. In 34/40 the magseed localised node was same as sentinel node (different in 3, dual mapping failed in 3). In 32/34 (94%) patients, nodes other than the localised sentinel node (LSN) did not change axillary stage, but in 2/34 nodes other than the LSN had macroscopic disease whilst the LSN was negative.
Conclusions: Although magseed localisation of the biopsied node failed in 20%, the clipped node retrieval rate is 98%. When magseed localised node is the sentinel, further nodes infrequently change axillary stage.

P063

SUSTAINABILITY IMPACT OF NEW VIRTUAL FOLLOW-UP PROGRAMME IN CLYDE BREAST SERVICE

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Sustainability in healthcare should be an important factor in the organization of services. Over recent years we have adopted a virtual clinic follow-up programme in the breast service, reducing the number of patient appointments. Previously patients attended an annual clinic appointment plus a mammogram appointment for 10 years. This was reduced to 5 years in 2018 and then to a new virtual model in 2020 whereby patients only travel to have annual mammography with limited clinic attendance. We serve a large catchment area across the West of Scotland involving a significant amount of patient travel. Here we aim to assess the reduction in mileage travelled, and consequential improvements in sustainability, brought about by the reformed service.
Method: Patients in follow-up were identified from electronic clinic records. Using their registered post code and the distance from that post code to the hospital, the total miles travelled per appointment were calculated and summed for each year of clinic activity. This mileage was then compared across the different follow-up models.
Results: Total of 1869 patients in follow-up.

Follow-up programme	Total annual miles travelled
10 year attendance	686 568
5 year attendance	343 284
5 years virtual model	205 970

Over 5 years = 137 314 miles of travel saved. Over 10 years = 480 598 miles of travel saved. This demonstrates a 70% reduction in miles travelled in the virtual clinic compared to the original 10 year follow-up model (205 970 vs 686 568 miles).
Conclusion: Virtual clinic follow-up allows significant reduction in patient miles travelled. We believe that this approach has valuable environmental benefit and will help NHS Scotland to reach its net zero target by 2040, particularly if widely adopted.

P064

BREAST CANCER RISK PREDICTION MODELS IN A MODERATE RISK FAMILY HISTORY CLINIC

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Introduction: NICE (CG164; 2019) recommends use of computer programmes to determine breast cancer familial risk. It is felt that IBIS (through FaHRAS interface) as used in our family history clinics estimates higher risk than BOADICEA (through CanRisk) used by our Genetics team. This evaluation compares risk estimates provided through both.
Methods: Governance approvals were obtained (University Hospital Southampton (SEV/0338) and University of Southampton (ERGO 65219.A1)). N=252 Patients attended the Southampton family history clinic (FHC) between October 2019-2021. The lifetime risk of breast cancer was calculated (IBIS via FaHRAS) as part of the routine clinical assessment. For this service evaluation BOADICEA (via CanRisk) lifetime risk was also calculated from those with a completed family history questionnaire (FHQ; N=74). The impact of excluding patient specific lifestyle factors was evaluated on IBIS and the implication of the differing methods of risks assessment evaluated.
Results: IBIS correlates with BOADICEA ($p<0.001$, $R=0.674$), but estimates higher risk. Patients at borderline risk are more likely to be referred to genetics and offered moderate risk mammography (Chi square=31, $p<0.001$), but this is less evident if lifestyle factors are not included (Chi square=18, p=0.001). Poor return of FHQ affects feasibility of BOADICEA in our FHC.
Conclusion: FHQ return rate is a barrier to our adoption of BOADICEA. IBIS estimates a higher lifetime breast cancer risk, particularly when lifestyle factors are included. In those borderline for a risk category understanding these differences may impact on advice given, or it may be helpful to calculate the risk using both models.

P065

3D SURFACE IMAGING OF THE BREAST - AN UPDATED SYSTEMATIC REVIEW

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Introduction: 3D surface imaging (3D-SI) has developed in aesthetic breast surgery and is increasingly being used in oncoplastic breast surgery.

3D-SI provides 2D anthropometric measurements, can simulate post-operative appearance and quantify outcome following surgery and adjuvant treatment using 3D measures such as volume and symmetry. The aim of this systematic review is to provide an updated summary on the utility of 3D-SI.
Methods: A literature search was conducted in August 2022 by searching PubMed, MEDLINE, EMBASE, Web of Science and CINAHL databases. Abstracts were screened and studies were included based on specific criteria. Studies were assessed for risk of bias using standard tools.
Results: 209 relevant abstracts were identified, of which 146 full papers were accessed and 52 were included in the final review. The study endpoints included image acquisition and system validation, data obtainable with 3D-SI, clinical research applications of 3D-SI, objective assessment of outcome including post-operative and radiotherapy-related changes and novel use of 3D-SI in breast surgery. Recent novel applications of 3D-SI in breast treatment include using 3D-SI to evaluate breast outcomes following radiotherapy, following feminising hormone treatment and autologous fat grafting. The well-described limitations of 3D-SI such as difficulty in identifying breast borders and the interpolation of the posterior border of the breast however remain.
Conclusion: The literature confirms the utility of 3D-SI in objective measurement of breast treatment outcomes, simulation of post-operative appearance and enhancing of shared decision-making.

P066

COMPARING PROMS FOR BCS AND MASTECTOMY WITH IMMEDIATE RECONSTRUCTION USING 5 BREAST-Q DOMAINS

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Aim: As a founding member of the international OECD Breast Cancer PROMs Working Group, our tertiary centre participated in its second round of data collection to facilitate benchmarking and standardise comparisons worldwide. We aimed to compare the outcomes of breast conserving surgery (BCS) with immediate reconstruction (IR).
Method: Validated Breast Q reconstruction and BCS questionnaires across five domains were disseminated 6 to 24 months following surgery to 915 consecutive breast cancer patients treated with BCS (732) or IR (183) between February 2019 and August 2020. Risk adjustment variable data was also collected. Two-sided unpaired t-tests were also carried out.
Results: 480 (52%) patients responded (BCS 392, autologous reconstruction (AR) 49, implant-based reconstruction (IBR) 39). Mean Q scores across the 5 domains were: Breast satisfaction - BCS 68, AR 65, IBR 57; Outcome satisfaction - BCS 81, AR 78, IBR 67; Psychosocial well-being - BCS 75, AR 68, IBR 69; Sexual well-being - BCS 55, AR 46, IBR 46; Physical well-being - BCS 73, AR 75, IBR 76. Breast Q scores were significantly higher for BCS vs IR across 4 domains ($p<0.05$). However, the scores for 'Physical wellbeing' were comparable across all 3 groups. Q scores for 'Breast Satisfaction' and 'Outcome Satisfaction' were comparable between AR and BCS.
Conclusions: This represents the largest series comparing PROMs of BCS with IR, extending our previous work beyond breast satisfaction to include all BREAST-Q™ outcome domains. The results provide further support to suggest that BCS and AR outcomes are comparable and surpass those associated with IBR.

P067

MULTI-CENTRE EVALUATION OF NPWT IN HIGH-RISK PATIENTS UNDERGOING ONCOPLASTIC BREAST SURGERY

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Introduction: Negative pressure wound therapy (NPWT) has emerged as an adjunct to reduce wound complication rates in many domains. This study investigated the prophylactic use of PICO® NPWT in high-risk patients undergoing oncoplastic breast surgery.
Method: This was a prospective multi-centre national audit as classified by the NHS Health Research Authority online decision tool. All centres obtained local audit approval. The study findings were compared against ABS/BAPRAS Oncoplastic Guidelines for best practice.
Results: Data from 267 patients were included from 7 centres. All patients had at least one high-risk factor for postoperative wound complications and 78 patients (29.2%) had more than one high-risk factor.

	Cohort	Patients undergoing mastectomy with immediate implant-based reconstruction
N	267	158
Post-operative wound complications	36 (13.5%)	22 (13.9%)
Skin flap necrosis	16 (6.0%)	10 (6.3%)
Wound dehiscence	13 (4.9%)	7 (4.4%)
Post-operative wound infection	15 (5.6%)	8 (5.1%)

Of the whole cohort, 11 patients (4.1%) required further surgery due to wound complications and 8 patients (3%) had a delay in receipt of adjuvant therapy. Implant loss rate was 3.8%. The estimated total cost saving was84,613 and £316.90 per patient. On comparing, it was found that the wound infection rate (5.6%) in the study was much lower than the 25% reported by both the iBRA study and the NMBRA. The implant loss rate in the study was 3.8% which was within the <5% target mentioned in the ABS/BAPRAS guidelines.
Conclusion: Our study suggests that prophylactic use of NPWT in oncoplastic breast surgery results in a low rate of wound-related complications with associated healthcare cost benefits in patients with high-risk factors for wound-related complications. A prospective randomised controlled trial is required to further evaluate the prophylactic use of NPWT in oncoplastic breast surgery.

P068

THE IMPORTANCE OF OSNA IN EARLY BREAST CANCER PATIENTS WHO HAVE HAD UPFRONT BREAST CANCER SURGERY

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Introduction: The aim is to audit the diagnostic service at a single-centre DGH and examine the role of OSNA in newly diagnosed early breast cancer (EBC) patients with initially clinically node negative disease who were found to have a positive sentinel lymph node (SLN). Our practice was compared to guidance recommended by NICE and ABS on the management of the axilla in EBC.
Methods: A retrospective study over a two year period was performed to look at newly diagnosed EBC patients with a negative preoperative ultrasound axilla and/or biopsy. Results of OSNA were interpreted. Patients with positive SLN on OSNA were further examined. Total tumour load (TTL), cytokeratin 19 (ck) mRNA levels, correlation to tumour biology and

outcomes following axillary node clearance (ANC) were interpreted. Adherence to guidance was assessed.
Results: OSNA identified 22% with axillary LN involvement. Of those, 57.7% underwent ANC; 54% had 1 or 2 macrometastases, 29% had 3 or more macrometastases; 37% had additional positive LNs taken with ANC and 21% had a change in LN status as a result of ANC. ck19 mRNA ranges for micro and macro metastases were in line with NICE guidance. No correlation between positive SLN and high-risk tumour subtypes was found.
Conclusions: OSNA is a valuable tool in identifying undetected LN positive patients. A less extensive surgical approach to the axilla with low burden SLN involvement should be practiced as recommended by current guidance and recent literature. Redefining the role of OSNA in current practice should be considered going forward.

P069

WHY RISK IT WHEN YOU CAN STAGE IT? OUTCOMES FOR PREPECTORAL RECONSTRUCTION IN A SINGLE CENTRE

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Introduction: Immediate implant-based reconstruction remains popular but is associated with high rates of implant loss and revision. It therefore requires careful patient selection and optimal technique. We have audited our single centre prepectoral reconstruction practice against national standards and iBra data.
Methods: Prospectively collected data was reviewed. Our unit have performed prepectoral reconstructions using Braxon© ADM since October 2017. Free flap reconstruction is offered out of county. Decision regarding DTI versus 2 stage was made at the reconstruction MDT based on comorbidities and need for radiotherapy. UK registration audit-ID number 2496
Results:
- 133 (166 breasts) patients were analysed.
- Mean follow up 29 months (range 1 to 54).
- Table 1 shows reconstruction details. Mean expander fill was 300mls (range 100 to 600)
- 23% current or ex-smokers; 25% postoperative radiotherapy and 3.6% previous radiotherapy
- Implant loss rate is 6 patients (3.6% overall) (Table 2); 3 (DTI); 3 (2 stage)
- 2 of 6 patients having previous radiotherapy suffered early implant loss
Unplanned revision surgery was performed in 14 (8.4%) breasts.
Conclusion: These data show that in "all comers" implant loss rate can be kept acceptably low. 2 stage reconstruction can be safely considered in those patients who may be at higher risk, with the additional benefit of a planned second surgery potentially reducing unplanned revisions.

Table 1. Demographics/reconstruction detail

	N	%
Number of patients	133	
Number of breasts	166	
Bilateral	31	18.67
Mean age	46	
DTI	57	34.34
2 stage	109	65.66
Mean implant size	410	160 to 650
NSM	96	57.83
SSM	69	41.57

Table 2
Complications compared with national data

	N	%	iBra	National Quality Criteria for Breast Reconstruction
Clavein Dindo I or II	18	10.84		
Unplanned reoperation	14	8.43	18%	<5%
Implant loss	6	3.61	9%	<5%
Total Complications	32	19.28		

P070

MALE BREAST REFERRALS AND GYNAECOMASTIA BLOOD TESTS - A CLOSED LOOP AUDIT AGAINST ABS GUIDANCE

Thomas Birmingham, Cara Vincenti, Ross McLean, Gwen Bromley, Grant Harris. *Queen Elizabeth Hospital, Gateshead, UK*

Introduction: The Association of Breast Surgery (ABS) gynaecomastia guidelines include male breast referral indications and blood tests to be performed before referral. Following a 2021 audit, we implemented education including 'Safecare' presentations and protocol posters in clinic. We re-audit compliance with ABS guidelines for male referrals and gynaecomastia blood tests.
Methods: Retrospective review of 6 weeks of male breast referrals in early 2022 was performed, comparing with the same period in 2021. Referral indication, blood tests performed (pre-referral/breast clinic), and outcome were ascertained from the electronic patient record and audited against the ABS guideline. Caldicott and audit department approval was obtained.
Results: 105 male breast referrals were received, of which 78 attended. 46% met referral criteria (54%, 2021). 53/78 (68%) were diagnosed with gynaecomastia (others - fat necrosis, cancer, skin lesions). Of these, 12/53 (23%) referrals mentioned gynaecomastia as a differential diagnosis (7%, 2021). 7 patients (13%) had blood tests prior to referral (12%, 2021). 35/53 (66%) patients had an identifiable cause for gynecomastia in clinic (29%, 2021). 18/53 had indication for blood tests; only 3/18 patients had these performed, none had the complete recommended set. We found the current institutional gynaecomastia bloods profile does not include all ABS recommended tests.
Conclusions: Breast clinic diagnosis of underlying cause for gynaecomastia has improved, however blood tests are not being requested when indicated. Half of GP male referrals are not compliant with the guideline. A new male breast pathway including a male referral proforma, GP education and a revised gynaecomastia blood order profile will address these issues.

P071

COMPARISON OF PATIENT REPORTED COMPLICATION RATES FOLLOWING BCS VS IMMEDIATE BREAST RECONSTRUCTION

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Aims: We aimed to compare patient reported complication rates following breast conserving surgery (BCS) with those following immediate breast reconstruction (IR) with implants (IBR) or free autologous tissue (AR) at a single UK tertiary centre.
Method: Validated complications questions, used previously as part of the National Mastectomy and Breast Reconstruction Audit, were sent 6 to 24 months after surgery to 915 consecutive patients with unilateral breast cancer who underwent BCS (732) or IR (183) between February 2019 and August 2020. Risk adjustment variable data was also collected.
Results: 480 patients (53%) responded (BCS 392, AR 49; IBR 39). Complication rates were as follows: bleeding requiring transfusion - BCS 1%, AR 2%, IBR 0%; wound dehiscence requiring further surgery - 1%, 8%, 9%; wound infection requiring antibiotics - 11%, 45%, 12%; mastectomy skin flap necrosis - 3%, 14%, 5%; unresolved pain - 36%, 31%, 18%; unresolved numbness - 26%, 57%, 18%; seroma requiring drainage - 16%, 20%, 11%; limb swelling - 11%, 16%, 4%; and shoulder/arm stiffness - 23%, 22%, 18%. Systemic complications (DVT / PE / MI) were 3% in all groups). The implant loss rate was 11%. No patients reported complete flap loss but 12% reported partial flap necrosis requiring surgery, and 2% reported a donor site bulge.
Conclusions: Our results highlight complications for patients undergoing all types of breast surgery. Reconstructive failure following IBR far surpasses AR, reinforcing the need for reconstructive surgeons skilled in microsurgical techniques to be present within every oncoplastic service in the UK.

P072

A FULL CYCLE AUDIT EVALUATING MAGTRACE® FOR SENTINEL NODE BIOPSY IN BREAST CANCER PATIENTS

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Introduction: Sentinel node biopsy (SNB) after technetium-99 (Tc 99) localisation is the gold standard method for axillary node localisation in breast cancer patients (Nice Guidelines 101 2018). Magtrace®, an-iron based tracer is a recent alternative which has service and patient advantages.
Methods: A prospective full-cycle audit in one breast unit comparing SNB technique before and after the introduction of Magtrace®. In cycle 1, SNB was performed using Tc 99 and blue dye. In cycle 2, SNB was performed with Tc 99 and Magtrace®. The outcomes were mode of node localisation, number of nodes retrieved and surgeon's assessment of procedure ease.
Results: In cycle 1, 118 SNB were performed with Tc 99 and blue dye: 57% nodes were both hot and blue, 17% hot only, 14 % blue only and 12% neither. The median node retrieval number was 2. Surgeon's assessment of procedure were 70% 'straightforward', 21% 'difficult but successful' and 9% 'failed procedure proceed to axillary sample'. In cycle 2, 98 SNB performed with Tc 99 and Magtrace®: 94% were Magtrace®- detected and confirmed hot with Tc 99 probe, 6% failed (no Magtrace® or radioisotope). The median node retrieval number was 3. Surgeon's assessment of procedure was 85% 'straightforward', 9% 'difficult but successful' and 6% 'failed procedure proceed to axillary sample'.
Conclusions: The results suggest a higher number of nodes may be retrieved with Magtrace®. Surgeons report a higher rate of straightforward procedures and a lower rate of failed procedures. Our unit is now using Magtrace® as a single tracer agent for SNB and omitting radioisotope in most patients.

P073

STUDY IN PROGRESS - PRE-OPERATIVE ONCOTYPE DX TESTING: A DECISION IMPACT STUDY (PRE-DX)

Grant Harris [1], Matthew Northgraves [2], Judith Cohen [2], James Harvey [3], Chao Huang [2], Carlo Palmieri [4], Sarah Pinder [5], Pankaj Roy [6], Sarah Reynia [7], Henry Cain [8]. [1] *Queen Elizabeth Hospital, Gateshead, UK;* [2] *Hull Health Trials Unit, Hull;* [3] *Manchester University NHS Foundation Trust, Manchester, UK;* [4] *University of Liverpool, Liverpool, UK;* [5] *King's College London, London, UK;* [6] *Oxford University Hospitals NHS Foundation Trust, Oxford, UK;* [7] *Exact Sciences International, London, UK;* [8] *Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle, UK*

Background: Oncotype DX Recurrence Score (RS) guides recommendations made to patients with ER+/HER2- breast cancer regarding post-surgery adjuvant therapy. Currently performed on the operative specimen following surgical treatment, it is technically possible and accurate to perform the Oncotype DX test on the diagnostic core biopsy (DCB). By eliminating the wait for surgical excision specimen RS results by testing the DCB, patients could be more accurately counselled regarding their treatment pathway and adjuvant treatments expedited allowing more efficient streaming of follow up appointments.
Methods: PRE-DX is a multi-centre, parallel group randomised controlled trial (2:1; Intervention:Control) comparing the impact on the patient pathway of performing the Oncotype DX test on the DCB pre-operatively (intervention) as opposed to the surgical excision (control). Patients with ER+, HER2- tumours (axilla N0 grade 2 20mm or grade 3 10mm or N1 of any size/grade), with surgery planned as the primary definitive treatment and fit for chemotherapy are eligible. The primary endpoint is number of touchpoints between treating team and participant from initial approach to offer of adjuvant treatment. Secondary endpoints include time from diagnosis to start of adjuvant treatment, alteration in treatment sequence, patient anxiety scores, health cost impact analysis, and rate that RS score cannot be issued on the core biopsy. The study will recruit 330 patients from 20 participating NHS centres over 8 months.
Conclusion: The study will add to the evidence base of the patient management pathway of performing the Oncotype DX test on the pre-operative DCB. Clinical trial information: ISRCTN14337451.

P074

DERMOGLANDULAR MATRIX ROTATION FLAP IN BREAST CONSERVATION SURGERY: SCOPE AND COSMETIC OUTCOME

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Introduction: BCS is increasingly adopted in LABC. Large volume loss and upper quadrant surgeries often result in poor cosmetic outcome. Complex displacement techniques are technically demanding. Dermoglandular matrix rotation (DGMR) flap is a new evolving tool in OPS.
Aims:
1. Evaluate cosmetic outcome of DGMR in different quadrants.
2. Patient satisfaction
3. Scope of use in BCS
Methodology: Prospective observation study over 6 months (May and November 2022). Patients with UIQ, LIQ and outer quadrant lesions (expected post excisional volume loss 4 to 5 cm). Patients with MBC, Inflammatory cancers and with contraindications to radiotherapy were excluded. The cosmetic outcome was assessed independently by surgeons and patients. The surgical assessment score was done based on symmetry of NAC, loss of contour. The patients were asked to evaluate the cosmetic outcome in VAS (1 to 10).
Result analysis: 21 patients were followed between six and twenty four weeks. The mean age of the patients were 49.2 years. The mean tumour size was 4.1 cm with a mean volume loss of 73.3 gms. 85.17% underwent ALND. All patients had R0 resection. 66.6% and 33.3% lesions were in the UIQ-LIQ and UOQ respectively. The NAC displacement of more than one IC space was noted in 1 out of 21 patients. UOQ volume loss was recreated in all patients. 81.91% patients rated it as excellent. There was concordance between Surgeon (objective) and patient (subjective) evaluation.
Discussion: DGMR has excellent outcome after large volume loss (segmentectomy with skin loss for multifocal/diffuse/skin tethered lesions) It is suitable for UIQ-OUQ lesions. Easily adoptable technique.

P075

IS BANGLADESH READY TO ADOPT BREAST-CONSERVING SURGERY? A TERTIARY CANCER CENTRE'S EXPERIENCE

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Introduction: Breast-conserving surgery (BCS) is a standard of treatment for breast cancer for most T1-T2 lesions. Developing countries like Bangladesh have not been able to adopt this procedure like developed countries due to the advanced stage of patients' first presentations and a lack of adequately trained surgeons and post-operative radiotherapy facilities. The aim of this study is to see how many patients are opting for breast-conserving surgery, comparing findings from the last five years of experience in a tertiary cancer centre in Bangladesh.
Methodology: We retrospectively collected data and compared the number of breast-conserving surgical procedures to mastectomy surgery over the last five years (July 2017 to June 2022) from our database at Ahsania Mission Cancer Hospital, a tertiary cancer centre in Dhaka, Bangladesh.
Results: We calculated that from July 2017 to June 2022, a total of 501 breast cancer patients had breast surgery. Among them, breast-conserving surgery was performed in 114 cases (22%). In 2017, the breast-conserving surgery rate was 7.7%, compared with the rate of 31.25% in 2021. Also, the rate of adjuvant radiotherapy following BCS increased from 66.6% to 96.4%.
Conclusion: Patients are reluctant to choose breast-conserving surgery due to a lack of understanding of the procedure and outcomes. Inadequate radiotherapy support is also to blame for the slow uptake of this effective

breast surgery treatment. With the increasing awareness and availability of modern treatment facilities in our centre, the rate of breast-conserving surgery is increasing, but still has a long way to go before being implemented nationally.

P076

SYSTEMATIC REVIEW OF AXILLARY MANAGEMENT IN ELDERLY PATIENTS WITH BREAST CANCER

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Introduction: The role of axillary staging and clearance is debatable in elderly patients with morbidities and frail patients who may not tolerate chemotherapy. This study aims to review omission of axillary procedure in elderly patients.
Methods: Literature search was conducted from 1st Oct-1st Nov 2022 using the following database: Ovid Medline, Embase, PubMed, Cochrane library and Web of science (1946 to present).
Results: There were 10 studies included in the review, 2 RCTS and 8 observational studies. The RCTs compared elderly patients who did not have sentinel node biopsy (SNB) versus those who had in early breast cancer. The meta-analysis of the RCTs of 692 patients found that there were no differences observed in overall or breast-cancer specific mortality (RR 0.99, 95% CI: 0.79 to 1.24, I2 = 0%, p = 0.92, RR 1.07, 95% CI: 0.72 to 1.57, I2 = 0%, p = 0.75, respectively). Similarly, 4 observational studies (n=2765) showed no difference in overall survival of patients with ER positive HER2 negative T1-2 N0 who did not undergo any axillary staging. In elderly patients with T1-2, 1-2 nodes with macrometastsis, ER positive and HER2 negative (n=11996), there was no survival benefit with axillary node clearance versus those who had SNB alone.
Discussion: Omission of axillary staging in elderly patients with T1-2 N0 ER positive and HER2 negative. Similarly, exclusion of axillary clearance is safe in elderly patients with ER positive and HER2 negative T1-2, 1-2 nodes positive.

P077

NATIONAL SURVEY FOR ASSESSMENT OF MEDICAL CODING EDUCATION IN BREAST SURGERY

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Introduction: Accurate medical coding is a key to public health research, audit, risk management and healthcare policy building on big data population survey. Its use has also increased in artificial intelligence-based medicine programs. Previous studies have shown insufficient awareness and engagement of doctors in the medical coding process. This national prospective study aimed to assess awareness and knowledge of medical coding among breast surgeons.
Methods: An electronic survey was created by breast surgical team at St Bartholomew's Hospital, London using the platform 'www.surveymonkey.com,' and distributed to the trainees, SAS doctor and consultant breast surgeons across the UK.
Results: Of the 78 responses collected, majority were consultants (n=64, 82.1%), with more than 5 years' experience (n=44, 68.7%), and the rest were trainees (n=8, 10.2%) and non-trainees (n=6, 7.7%). 56 surgeons (71.8%) received no formal training on the NHS coding system and 19 (24.4%) had some informal training. 61 surgeons (78.2%) failed to mention medical codes in their operating notes. When given hypothetical scenarios, 48 (61.5%) of them incorrectly coded breast procedures.
Conclusion: There is significant lack of awareness and deficit in knowledge about basic medical coding amongst breast surgeons due to the lack of formal training. Training in medical coding, albeit short, is recommended for breast surgeons for future engagement in healthcare research and audit.

P078

BIA-ALCL OR CHRONIC BREAST INFLAMMATION - A DIAGNOSTIC DILEMMA

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Introduction: We present a case of BIA-ALCL with an unusual presentation. Unlike common presentations of seroma (60%), mass (17%) or both (20%), this case presented with recurrent redness, swelling and pain.
Methods: The patient, 66 years old female, was initially treated with left mastectomy and tissue expander reconstruction using Allergan 150SH in 2006 following screen detected DCIS. She re-presented with left breast swelling and pain in 2019. US confirmed implant rupture with seroma. She underwent explantation, capsulectomy and replacement with Polytech implant. Fluid and tissue samples were negative for BIA-ALCL. Following that, she had recurrent redness, thickening and cellulitis of the left breast. This was thought to be recurrent infection as US imaging suggested no mass or seroma and managed with multiple courses of antibiotics. With no improvement, decision was made to remove the implant.
Results: On this occasion, posterior layer of capsule was thickened and necrotic with a patch of necrotic tissue spreading below the implant posteriorly into the infra-mammary fold. There was no evidence of hemoseroma at all and per-operatively it looked like a chronic infection. Histology from the tissues, however, confirmed BIA-ALCL. She is awaiting staging PET-CT and Haem-oncology input.
Conclusions: This was an atypical presentation of an already rare breast neoplasm (Lifetime risk of 1 in 30,000 textured breast implants) with features of chronic inflammation rather than fluid collection or mass. As breast surgeons, BIA-ALCL diagnosis should be actively sought in such cases and early shared decision making about explantation and capsulectomy is recommended.

P079

SECOND LOOK US AFTER MRI. HAS IT CHANGED THE SURGICAL PLAN?

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Background: MRI improves sensitivity in evaluation of breast cancer. However, specificity of MRI is lower, ranging from 40% to 80%, hence tissue sampling is needed to confirm benignity or malignancy. In this study we looked at all 2nd look US and evaluated the results.
Standard: Comparing our results of MRI-detected abnormalities on second-look US to the published data, which varies widely (46-86%)
Indicator: To assess utility of MR-directed "second-look" ultrasound of more breast lesions detected on MRI and comparing rates to published data. Concordance of MRI findings to US and biopsy results.
Target: Determine the percentage of patient who come back for additional imaging and biopsy after detecting Additional lesions on MRI. Percentage of benign versus malignant lesions confirmed after 2nd look US allowing for safe progression to conservative surgery versus rate of further cancer detecting after MRI that would change the surgical plan from WLE to 2x WLE or mastectomy. Number of patients that had a change of plan following the results of MRI and 2nd look US/Biopsy, eg from WLE to mastectomy.
Methodology: Retrospective review breast MRIs, reporting 2nd-look US, for additional enhancing lesions between1/6/2017 and 31/12/2018,from PACS/eRecord.
Results of 1st audit round: Out of 137 lesions; 15.3% (21/137) lesions had no further 2ndUS as per MDT decision but proceeded to WLE(10/21)or mastectomy(3/21). Findings corresponding to calcifications (5/21) on mammogram had stereotactic guided biopsy. 1 was for a LN and 2/21 proceeded to NAC. 10/137 had an US that appeared normal and did not have a biopsy. 106/137 patients with MRI that required 2nd look US underwent US guided biopsy. 48% lesions were found to B1 and B2, 38% biopsy results showed B5 results. 11% were B3 & B4 lesions. 45% (46/102) lesions turned out benign (B1,B2) on histopathological results, 9.4% (10/106) B3 and 38% (40 of 102) lesions were malignant B4 and B5 and 1 metastatic lymph node. Our additional cancer detection rate is 30% more cancers but we also excluded cancers in the rest allowing for safe progression to conservative surgery and surgical planning.

P080

STAGING CT SCANS IN BREAST CANCER: ARE WE MISSING ANY METASTASES?

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Introduction: 4-6% of symptomatic breast cancers are metastatic on diagnosis. Clear RCR guidance is published for staging criteria: T3/4 size, 4 or more involved axillary lymph nodes (LN), or clinical suspicion of metastases.
Aims: Our unit historically performed staging CT scans (S-CT) for all node positive breast cancers. We aimed to retrospectively audit adherence to guidance regarding staging in all breast cancer diagnoses in 2019.
Methods: Retrospective data collection for all breast cancer patients in 2019, including; pre-operative loco-regional staging, operative intervention, final histology, and S-CT result. NACT patients were excluded.
Results: 47% (n=148) of all operatively managed breast cancers in 2019 (n=312) had a S-CT. 24% (n=35) of these were performed according to guidance (Group A), with a positive pick-up rate of 26% for metastases (n=9). The residual 76% were not performed according to guidelines (n=113), and further sub-divided into negative metastatic findings 'Group B' (n=76) and positive metastatic findings 'Group C' (n=7), constituting 6% of non-guidance CTs. N=30 were excluded based on incomplete data, incomplete treatment, and NACT. 70% of Group C had LN metastases vs 33% of Group B. Mean number of positive nodes was significantly higher in Group C (1.33 vs 0.56, p=0.026), as was mean tumour size (33mm vs 23mm, p=0.035). Group C metastases were to bone 71% and lung 29%.
Conclusion: Our results support evidence that 5% of breast cancers are metastatic at presentation. 6% of non-guidance staging revealed occult metastatic disease. The long-term clinical significance of this is uncertain.

P081

CAUSES AND IMPACT OF BREAST CANCER PATIENTS BEING LOST TO FOLLOW UP IN DEVELOPING COUNTRIES

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Breast cancer incidence in India rate as high as 25.8 per 100,000 women and mortality 12.7 per 100,000 women. Mortality-to-incidence ratio was found to be high especially in rural registries. In a developing country one of the main causes for this is lost to follow up. Here we aim to find out the possible loopholes causing such a disparity between those receiving treatment and the survivor data.
Methodology: Breast Cancer Patients who were treated at IPGMER from 2016-2021 were identified and medical records were reviewed. The patient who has lost follow during or after completion of treatment has been contacted and the details has been recorded.
Results: Among 543 patients, total 72 patients (13.26%) had lost follow up after completion of treatment among them 11 patients (15.27%) had got local recurrence in long term and 2 of them had died. 13 patients (2.4%) didn't appear for any kind of adjuvant therapy. 6/9 patients, whom could be contacted, had died already. The major causes of lost to follow up as per them is lack of awareness (58%) and monetary issues (35%).
Conclusions: Here we found that after completion of therapy there is a large amount of patients who are lost to follow up due to lack of awareness or monetary issues in travelling to tertiary centres for frequent follow ups. Thus, the disease-free survival rates are questionable. We aim to strengthen our breast cancer survivor program by introducing a pink corridor where patients would be followed frequently at a rural level by Navigators comprised of comprised of survivors and any suspicion of recurrence would be immediately reported.

P082

RADIOFREQUENCY AS A METHOD OF LOCALIZING OCCULT BREAST LESIONS

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Introduction: The number of advanced breast cancers has decreased due to the detection of early nonpalpable breast cancers through the screening program. One of the obstacles to performing breast-conserving surgery is the precise localization of non-palpable breast lesions, especially considering the logistical issues of wire localization. Following the introduction of a novel method (RFID), we aimed to determine whether the re-excision of positive margin increased and whether it depended on RFID position.
Methods: A single-centre study, data were collected prospectively and retrospectively for 2 years. Patients with non-palpable breast lesions, histologically proven in situ, or invasive breast cancer who are undergoing breast-conserving surgery were included. Preoperatively lesions were localized with the RFID method. The TAG position was recorded through mammograms. Re excision rate was recorded and analysed with respect to the above-mentioned parameters.
Results: 217 patients aged between 30 and 85 had a localizer TAG inserted between 0ct 2020 and Oct 2022. Three of the patients were bilateral. Fourteen patients had stereo-guided TAG insertion and 206 had ultrasound guidance. Ten patients had wire insertion due to a highly inappropriate TAG position. Of 220 procedures, TAG placement within the lesion was seen in 120 patients (55%). A further 90 procedures were undertaken with the TAG deemed appropriate to proceed. Positive margins were seen in 37 procedures (16.8%). Of these, eighteen (48.6%) were undertaken with the TAG adjacent to, rather than within the lesion.
Conclusion: RFID is a wireless localization of non-palpable breast lesions. Accurate TAG position has a significant impact on re-excision rate.

P083

EVALUATING THE BLUE FLAG CLINIC - A NOVEL PATIENT PATHWAY TO MANAGE SYMPTOMATIC BREAST REFERRALS

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Background: A novel referral pathway for Exhibited Breast Symptom (EBS) referrals to manage increasing referrals of Urgent Suspected Cancer (USC) was implemented in our Trust. We report on the safety and effect on compliance with the two-week-wait rule (2WW).
Methods: A single centre longitudinal observational study included all patients referred to a single UK breast unit (13/05/2019 - 27/03/2020 & 08/02/2021 - 31/01/2022; audit number 2413). USC referrals were assessed in a one-stop clinic (red flag clinic; RFC); EBS referrals were assessed in a novel clinic where clinical evaluation was performed and imaging occurred subsequently (blue flag clinic; BFC). Patients were followed up to determine the symptomatic interval cancer rate.
Results: There were 9695 referrals; 1655 referrals (17%) were assessed in BFC after 63 exclusions. 95.9% of patients had a benign clinical examination (P1/P2), 80.1% had imaging (either mammogram or ultrasound) and 4% a tissue biopsy. 16/1655 (0.97%) BFC patients vs 510/7977 (8.2%) RFC patients were diagnosed with breast cancer (breast cancer detection rate). 1631 patients (with 1639 referrals) were discharged and followed up for a median of 17 months (IQR 12-32) with 1 subsequent cancer diagnosis (symptomatic interval cancer rate 0.06%). Implementation of BFC pathway increased 3 month average Trust performance of USC referrals with 2WW standard from 8.5% to 98.7% (Time period 1) and 30% to 66% (Time period 2).
Conclusion: The BFC pathway for EBS patients is safe and implementation led to improvement against the 2WW target for USC referrals. This

pathway prioritises resources to patients with the highest likelihood of breast cancer.

P084

EFFECTS OF ADOPTING A NEW ELECTRONIC MEDICAL SYSTEM (EPIC) ON THE ONE STOP BREAST CLINIC EFFICIENCY

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Introduction: Implementing a new Electronic Medical Recording system aims to improve patient care, but presents challenges in terms of infrastructure, staff training and efficiency. EPIC is becoming adopted in many units in the UK, Manchester being one of the early adopters. This study aims to assess the effects of implementing EPIC on breast clinic efficiency.
Methods: Data was collected one week prior to launching EPIC and 6 weeks after. Primary outcome measure was total patient journey time in the clinic from registering, to leaving the department. Secondary outcome measures included; number of clinic slots, patients seen per clinician over the week, 2ww times, consultation and administration times. Data was analysed using SPSS with paired sample t-test.
Results: Mean patient journey time was 113 minutes pre-EPIC compared to 121 with Epic ($p<0.05$). Mean consultation time was unchanged from 12.5 to 11.6 minutes ($p= 0.328$). Mean administration time per patient increased from 3.8 to 10.3 minutes ($p<0.001$). Total number of clinic slots available increased over the study period from 250 to 319 with EPIC, the 2ww was reduced from 12 to 9 days. Mean number of patients seen by each clinician increased from 8.26 to 10.29.
Conclusions: Epic implementation is challenging in the first six weeks. Consultation time is unchanged but the doctors' role expands to include booking future appointments, adding electronic diagnoses and writing and checking their own letters, causing an increase in administration time. The patient journey is extended and much of this may be due to increased radiology administration time.

P085

DAY CASE MASTECTOMY – BEYOND GIRFT 2021

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Aim: To ascertain the day case mastectomy rate against the GIRFT report 2021.
Introduction: The British Association of Day Surgery (BADS) recommends that two thirds of mastectomies (without reconstruction) could be performed as day case. However, the GIRFT report 2021 suggested that nationwide practice varies from 0-78.28% and acknowledges that low reported rate could result from data capture. City Hospital breast unit had established a dedicated pathway for day case mastectomy in 2006 which was later adapted as a national model in 2008. This is an audit of our practice carried out to ascertain the present rate of day case mastectomy at the unit.
Methods: Retrospective data was collected between January 2021 to September 2022 for all planned day case mastectomies.
Results: 133 patients were included in the study. Median age was 63.69 years. ASA classification of patients was as follows: ASA I (7.5), ASA II (69.9%), ASA III (21.8%) and ASA IV (0.8%). 111 (84%) patients were discharged as day case. 22 (16%) patients stayed beyond the predefined criteria of day case. 20 (91%) of these patients were discharged within 23 hours. Reasons of delayed discharges were anesthesia issues 9 (41%), urinary retention 3 (13%), post op hematoma 4 (18%), drain output 2 (9%) and no reason 4 (18%).
Conclusion: The audit shows that our day case mastectomy rate is 84% which is over the rate reported in GIRFT 2021. This could be further enhanced by dedicated anesthesia input, alteration of theatre list, amending the discharge criteria and improving the social support.

P086

RECURRENCE RATES FOLLOWING BREAST CONSERVING SURGERY - A SINGLE CENTER OBSERVATIONAL STUDY

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Introduction: Much debate exists on acceptable margins following breast conserving surgery (BCS) for breast cancer. Our margins policy, implemented in 2014, aimed to decrease re-excision rates without an increase in ipsilateral breast tumour recurrence (IBTR). The aim of this project was to assess our outcomes at 5 years.
Methods: In this single centre retrospective review, we included all women undergoing primary BCS for invasive breast cancer between 2015 and 2016. Our margins policy accepts a radial margin <1mm from invasive or in situ disease, provided that this is a single margin, with no cancer at ink, and concordant with preoperative breast imaging. We analysed patient demographics, histology results and their outcomes including re-excision rates, ipsilateral breast tumour recurrence (IBTR) and distant recurrence.
Results: In total, 407 women with invasive breast cancer underwent primary BCS between 2015 and 2016. 62 patients (15.2%) had subsequently had a re-excision or completion mastectomy. Follow up data was available in 394 patients, with a mean follow up time of 4.92 years. Out of these patients, 23 (5.8%) had local or distant recurrence. 11 patients (IBTR 2.8%) had local recurrence.
Conclusions: While having a low rate of re-excision, our patient group encountered a low local recurrence rate at approximately 5 years of follow up. Our preliminary data demonstrate that our margins policy is safe and reduces the number of re-excisions indicated. Further data analysis and longer follow up is underway to establish the reproducibility of our results.

P087

ROLE OF SENTINEL LYMPH NODE BIOPSY IN OLDER PATIENTS WITH BREAST CANCER - SINGLE CENTRE COHORT STUDY

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Introduction: Despite international guidelines supporting de-escalation of axillary surgery in elderly women with breast cancer, sentinel lymph node biopsy (SLNB) is still standard practice in the United Kingdom (UK).
Aims: To review practice patterns and potential association between sentinel lymph node biopsy (SLNB) status and adjuvant local and systemic treatment in older women with breast cancer at a high-volume tertiary cancer unit in the UK.
Methods: Retrospective cohort study of women $\geq$ 70 years with cN0/1 breast cancer who underwent SLNB between 1st January - 31st December 2021. Non-parametric statistical tests were used.
Results: 132 patients were included in the analysis. The median age was 75 (IQR:71-79) years. Most cancers were invasive ductal (77.3%), grade 2/3 (84.1%), hormone receptor (HR)-positive/HER2-negative (77.8%). The median tumour size was 20 (IQR: 13-27.75) mm. 10 women had neoadjuvant and 20 had adjuvant chemotherapy. SLNB was positive in 21/132 (15.9%) patients, and 5 proceeded with completion axillary lymph node dissection (ALND). 20/132 (15%) had adjuvant regional nodal radiotherapy. Of these, 11/20 (55%) would have met Z0011 inclusion criteria and could be spared axillary radiotherapy. The MDT decision for any chemotherapy was significantly associated with ethnicity ($p=0.024$), tumour grade ($p<0.0001$), receptor status ($p<0.0001$) and imaging size ($p=0.011$), but not SLNB status ($p=0.129$), age ($p=0.167$) and frailty ($p=0.546$).
Conclusion: Tumour characteristics are more important in the decision-making for adjuvant systemic therapy, rather than SLNB status. Further work to analyse operative cost benefits of avoiding SLNB in older women with early-stage breast cancer will be performed.

P088

TARGETED AXILLARY DISSECTION IN LOW VOLUME NODAL DISEASE AT DIAGNOSIS: UK PRACTICE SURVEY (TADPOLE)

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Introduction: In the UK, all patients with early breast cancer undergo axillary staging with USS. Those with involved nodes having primary surgery are recommended axillary node clearance (ANC) even for low-volume disease. There is no demonstrable survival benefit, but ANC is associated with ~30% risk of lymphoedema. Targeted axillary dissection (TAD) to remove the involved node(s) with a sentinel node biopsy represents an alternative. This survey aimed to explore current practice to inform the feasibility and design of a future trial comparing TAD and ANC in patients with low-volume nodal disease having primary surgery.
Methods: An online survey was distributed to UK breast units via the ABS/Mammary Fold newsletters and social media feeds between 09/2022 and 11/2022. Simple descriptive statistics were used to summarise the results.
Results: Of 54 UK units completing the survey, 43 routinely performed ANC as standard of care for patients with low volume radiologically detected nodal disease having primary surgery, with TAD infrequently offered. Over two-thirds of units expressed uncertainty about optimal surgical management of this group; almost three-quarters thought a trial of TAD vs ANC was feasible (52%) or potentially (20%) and 67% were either keen (48%) or possibly (19%) to participate. Most already performed TAD after neoadjuvant chemotherapy (either within a trial or as standard of care).
Conclusions: Avoiding ANC in patients with nodal disease is the top research priority from the recent James Lind Alliance Breast Cancer Surgery Priority Setting Partnership. This survey suggests an RCT comparing TAD and ANC would be feasible.

P089

CLINICO-DEMOGRAPHIC PROFILE OF BREAST CANCER PATIENTS - REAL WORLD DATA FROM LMIC

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Introduction: Globally breast cancer (BC) is the most common cancer and the most common cause of cancer mortality in 110 countries. Incidence of BC is higher in high income countries but is also on an increasing trend in low-middle income countries. There is a paucity of large datasets in these countries which can be analysed to gain in-depth knowledge of demographic and clinical details.
Methodology: An audit of prospectively maintained computerized breast cancer database of the department of surgical oncology at a tertiary care centre was performed after institute approval (IECPG-241/24.06.2020). Demography, clinical profile, and molecular sub-types were analysed for patients treated between 1992-2019.
Results: A total of 4628 patients were treated between 1992-2019. Mean age at presentation was 48.8 years and family history were significant in 14.4% patients. A palpable lump was the most common clinical presentation and only 0.5% tumours were screen detected. Mean tumour size was 5.02 cm and stage 3 B was the most common stage at diagnosis. Clinical nodal involvement was present in 43.1% patients. Prevalence of hormone receptor positive patients, triple negative breast cancer and Her2Neu positive tumours was 57.6%, 28.4% and 30.5% respectively.
Conclusion: Maintaining prospective cancer specific databases in cancer centres in LMIC is an effective way to study the disease demographics and clinical trends. This will be helpful in planning strategy to build resources to treat and screen the cancer.

P090

ROLL VS RFID TAGGING: WHICH IS BEST FOR IMPALPABLE TUMOUR LOCALISATION FOR WIDE LOCAL EXCISION?

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Introduction: Wide local excision for non-palpable malignant breast lesions can be performed using a variety of tumour localisation techniques. NICE does not issue guidance on localisation technique. In 2021, Warrington Hospital switched from ROLL (Radioguided Occult Lesion Localisation using (99m)Tc-labelled albumin) to RFiD localisation (Radio Frequency Identification tag) for wide local excision of ultrasound-visible impalpable breast tumours.
Methods: A retrospective review of medical records of patients receiving the two different tumour localisation techniques was performed. A total of 235 cases were examined (101 ROLL, 134 RFiD), each performed during a 12-month period before and after hospital technique change. The study examined positive margins, re-excision rates and intra-operative cavity shave rates (analysed with Chi2).
Results: Complete tumour removal with negative margins was achieved in 89/101 (88.1%) in the ROLL group and 100/134 (74.6%) of the RFiD group ($p<0.01$). ROLL guided WLE was found to have a lower re-excision rate (11.9% ROLL vs 20.9% RFiD ($p<0.02$)) and lower-intra-operative cavity shave rate (29.7% ROLL v 44% RFiD ($p<0.01$)) than RFID guided excision. Populations groups were comparable statistically (age, gender, race, histological tumour composition).
Conclusion: It is hypothesised by the submitting team that due to the eccentric placement of the RFiD, intra-operative tumour localisation is poor and results in higher re-excision rates for breast conserving therapy, when compared to central tumour injection in ROLL. Further research needs to be conducted to ensure best techniques are identified to achieve the highest patient care nationally.

P091

HOW RELIABLE IS PRE-OPERATIVE ULTRASOUND (USS) STAGING OF THE AXILLA?

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Introduction: Axillary lymph node staging in invasive breast cancer provides important prognostic value, with pre-operative USS staging and biopsy of suspicious lymph nodes the standard of care. Understanding the sensitivity and negative predictive value (NPV) of this testing helps inform patient expectations as they approach their Sentinel Lymph Node Biopsy (SLNB) and, in the context of One-Step Nucleic Acid analysis (OSNA), effectively plan operating lists.
Methods: Following local audit approval, invasive breast cancer patients discussed at a MDT in a single unit between January and April 2022 were retrospectively identified. A standardised data collection spreadsheet was used to record tumour characteristics, pre-operative ultrasound findings, relevant biopsy results and OSNA histology results from imaging and histology databases.
Results: Eighty eligible patients were identified; 100% underwent pre-operative USS evaluation of axillary lymph nodes. 23 (28.8%) had a biopsy based on their USS; 12 (15%) had metastatic lymph nodes identified pre-operatively. Of the remaining 68 (85%) who had negative lymph nodes on USS +/- biopsy, 16 (23.6%) had positive OSNA results at SLNB; 7 of whom had macrometastases and underwent further surgery, 9 had micrometastases only. Sensitivity of USS is 63.2% for the identification of macrometastases with a NPV of 89.7%.
Conclusions: Our single-centre results demonstrate a high negative predictive value of pre-operative USS which can be used to reassure patients based on their negative USS scan. Further work is under way to look at what features predict USS negative patients who go on to have a positive

SLNB to try and improve the sensitivity of the test.

P092

MASTECTOMY DURING COVID-19 PERIOD: QUALITY OF LIFE OUTCOMES AND POTENTIAL CHALLENGES

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Introduction: Patients treated with mastectomy during the COVID-19 pandemic were not offered breast reconstruction as treatment was focussed on cancer care, minimising morbidity and preventing health-care related COVID-19 infections. Aim of this study was to assess quality of life (QOL) outcomes in patients treated with mastectomy during COVID-19 pandemic.
Methods: Eligible patients were contacted and asked to complete post-operative module of Breast-Q mastectomy questionnaire. All patients who responded were included in the analysis. Patients were considered to be suitable (Group I) or unsuitable (Group II) for immediate breast reconstruction based on tumour and patient characteristics. Actual and converted (out of 100) mean scores for each domain were obtained. Mean scores for patients in groups I and II were compared.
Results: 232 mastectomies were performed in the study period. 167 patients met the eligibility criteria of which, 93 patients responded with completed questionnaires and were included in the analysis. Actual and converted mean scores for each domain are shown in Table 1. Overall converted mean scores (out of 100) for satisfaction with breast area, psychological well-being, sexual well-being and physical well-being were 50.27, 56.05, 32.84 and 71.05 respectively. Outcomes in groups I and II were comparable. 63.09% of patients were keen to have a delayed breast reconstruction.

Table 1

Domain	Actual mean scores			Converted mean scores (Range 0-100)		
	All patients (n=93)	Group I (n=60)	Group II (n=33)	All patients (n=93)	Group I (n=60)	Group II (n=33)
Satisfaction with breast area	10.04	9.90	10.30	50.27	49.17	52.27
Psychological well-being	33.24	33.20	33.33	56.05	56.40	55.42
Sexual well-being	13.28	13.76	12.23	32.84	35.18	27.81
Physical well-being	24.55	24.38	24.85	71.05	70.25	72.52

Conclusions: Patients performed well on the physical well-being domain, had close to average outcomes on psychological and satisfaction with breast area domains and had relatively poor sexual QOL. About two-thirds of patients are keen to have delayed reconstruction signifying the potential burden on existing reconstructive services.

P093

EFFICACY OF PREOPERATIVE AXILLARY ULTRASOUND IN EXCLUDING NODAL DISEASE IN EARLY BREAST CANCER

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Introduction: We designed this study to determine the false negative rate (FNR), negative predictive value (PPV) and the factors predicting false negativity of pre-treatment axillary ultrasound (AUS).
Materials & Methods: We retrospectively selected patients with normal lymph nodes on ultrasound, T1, T2 or T3 tumours, invasive cancer, who underwent sentinel lymph node biopsy (SLNB), between January 2019 and December 2020 at Shaukat Khanum Memorial Cancer Hospital, Lahore, Pakistan. Ultrasound findings were compared with the SLNB results, dividing our study population into False Negative (FN) and True Negative (TN) groups. Clinical, radiological, histopathological parameters and therapeutic strategies were compared between the two groups.
Results: Out of 781 patients, 627 (80.2%) had TN, while 154 (19.7%) had FN ultrasound results, with NPV of 80.2%. On univariate analysis, initial tumour size, histopathology, tumour grade, receptors, timing of chemotherapy, and type of surgery were found to have statistically significant difference between the FN and TN AUS groups. On multivariate analysis, tumour size, grade, Progesterone receptor, and human epidermal growth factor receptor 2 (HER 2 neu) status were found to be the significant predicting factors for FN AUS results. Larger, high grade, PR negative and HER 2 neu positive tumours were found to be associated with lower FNR on AUS.
Conclusion: Axillary ultrasound is effective in ruling out axillary nodal disease especially in patients with high burden axillary disease, aggressive tumour biology, larger tumour size and higher grade. However, we should be especially cautious while interpreting the results of AUS in case of lobular histology.

P094

THE VALUE OF PROGESTERONE RECEPTOR EXPRESSION IN PREDICTING PCR FOLLOWING NAC

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Introduction: The efficacy of neoadjuvant chemotherapy (NAC), as measured by the pathological complete response (pCR), varies between molecular subtypes in breast cancer (BC). Oestrogen receptor positive (ER+), human epidermal growth factor 2 receptor negative (HER2-) patients tend to have lower pCR rates. This study aimed to determine if progesterone receptor (PR) expression, no longer routinely tested in ER+ BC, can identify which ER+/HER2- patients will achieve pCR.
Methods: Patients undergoing NAC at the Royal Victoria Infirmary between 2013 and 2021 were identified and their clinicopathological features were collated in a retrospective dataset. PR status was ascertained with standard immunohistochemistry. The PR score was correlated with the pCR rate.
Results: 244 patients were included in the analysis (78 triple negative BC (TNBC); 25 ER+/HER2-; 141 HER2+). In the ER+/HER2- group, PR- patients achieved higher rates of pCR compared to PR+ patients (31% and 9%; 2; p=0.327). The pCR rate in the ER+/HER2-/PR- group was not statistically different to that of TNBC (31% and 29%; fisher's exact; p=1.000). In the ER+/HER2+ group, PR- patients achieved higher rates of pCR than PR+ patients (23% and 4%; 2; p=0.090). The breast pCR rate in the ER+/HER2+ group was statistically different (52% and 24%; 2; p = 0.015) when comparing PR- and PR+ patients.
Conclusions: PR- patients achieved higher rates of pCR in both ER+/HER2- and ER+/HER2+ subtypes. ER+/HER2-/PR- tumours may behave more like TNBCs than hormone positive BCs. PR status has value in determining which ER+ patients might benefit from NAC.

P095

IMPACT OF THE COVID-19 PANDEMIC ON BREAST CANCER MANAGEMENT: A SINGLE SITE OBSERVATIONAL STUDY

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Introduction: The COVID-19 pandemic initiated changes to the provision of breast cancer services, guided by the Association of Breast Surgery and National Institute of Health and Care Excellence, to provide ongoing safe and effective oncological care whilst minimising transmission.
Aims: To review alterations in breast cancer management within UHMBT during the COVID-19 pandemic, evaluate effect upon screening and referral numbers, clinical pathways and operational management.
Materials and Methods: Data was collected retrospectively from 388 patients newly diagnosed with breast cancer between 1/1/19 and 1/9/21.

We evaluated differences in management between our test (Covid) and control (pre-March 2020) groups. Management was determined as 'standard' or 'COVID19-modified'.
Results: During peak COVID-19 restrictions, 41.8% patients received 'standard' treatment, 58.2% 'COVID19-modified'. Modifications included neoadjuvant endocrine therapy, delayed adjuvant chemotherapy and altered surgical and radiotherapy management. Symptomatic referrals declined and breast screening was discontinued for 5 months and recommenced at a reduced rate (Table 1).

Table 1. Source of referrals to breast services 1/1/19 to 1/9/21.

	Dec 19	Jan 20	Feb 20	March 20	April 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20 Dec 20	Dec 20	Jan 21	Feb 21	March 21	April 21	May 21	June 21	July 21	Aug 21
Number of breast cancer referrals from screening services	22	16	18	19	2	1	13	12	1	3	4	6	8	16	8	14	26	20	25	23	21
Number of symptomatic breast cancer referrals	11	10	10	12	8	2	4	4	4	7	11	8	13	8	10	15	12	10	7	9	10
Number of breast cancer referrals from other services (ward/ED)	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3	4	0	0	0	1	3
Total number of referrals	33	26	28	31	10	3	17	16	6	10	15	14	21	25	21	33	38	30	32	33	

Operating theatre slots were reduced to limit admissions to the acute hospital. MDTs changed significantly, moving to paperless records and meetings held online. Clinics numbers were reduced and triage and telephone consultations were implemented. The FAST-Forward protocol was adopted, reducing radiotherapy sessions with only 2/46 patients deferring radiotherapy. Several changes became standard care post-Covid, as they were felt to be beneficial.
Conclusions: The COVID-19 pandemic resulted in widespread changes in the management of newly diagnosed breast cancer patients, which were seen in many breast units. National level research is required to assess any impact on patient experience and prognosis.

P096

IMPACT OF MENOPAUSAL SIDE EFFECTS ON ENDOCRINE TREATMENT COMPLIANCE: A HOT TOPIC

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Introduction: Adjuvant endocrine therapy (ET) is recommended for 5 years in patients with oestrogen positive breast cancer to reduce the risk of recurrence. However, ET is associated with menopausal side effects which have a significant impact on quality of life, contributing to early discontinuation in a substantial proportion of patients. This project aimed to establish the clinical need for breast cancer patients taking ET to have specialist management of menopausal symptoms to improve treatment compliance.
Methods: Patients taking ET and reporting tolerance issues were identified through retrospective evaluation of clinic letters/proformas from 12-month breast care nurse follow-up clinics between May and October 2022, using electronic patient records. Audit department approval was obtained.
Results: Of 225 patients taking ET, 64.9% (n=146) reported no issues. 12.4% (n=28) required a change of therapy, 3.1% (n=7) took a treatment holiday, and 4% (n=9) discontinued their treatment due to effects. 14.7% (n=33) of patients reported tolerable side effects, or utilised alternative therapies. 0.88% (n=2) switched or discontinued treatment for medical reasons.
Conclusions: Over one third of patients reported tolerance issues with ET, with over 15% ultimately switching or discontinuing treatment; most patients in this dataset were within their first year of treatment, demonstrating a deviation from the recommended standard of 5 years of ET. This establishes a need for menopausal side effects to be addressed to improve tolerability of ET and quality of life; this could be achieved by referring patients to a dedicated clinic for menopause symptom management.

P097

INTRA-OPERATIVE HYPERSPECTRAL IMAGING IN BREAST CONSERVING SURGERY - A SYSTEMATIC REVIEW

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Introduction: Up to 20% of patients undergoing breast conserving surgery (BCS) require re-excision surgery due to positive margins. The use of optical technology could aid a surgeon's visualization intraoperatively to help reduce re-excision rates. Optical technologies have the ability to extract morphological information from biological tissues, and help discriminate between normal and malignant tissue. We explore the potential role of hyperspectral imaging (HSI) as an intraoperative margin assessment tool in BCS.
Methods: The systematic review was registered on PROSPERO (CRD: 42022367755). An electronic search of MEDLINE, EMBASE and SCOPUS was conducted using a stringent search strategy. Inclusion criteria included only English language papers; and only human in-vivo or ex-vivo breast tissues. Exclusion criteria included papers describing the use of contrast agents; frozen samples; and the use of imaging adjuncts such as computed tomography.
Results: Following PRISMA guidelines, 13 studies were selected from the 142 abstracts screened. All studies used ex-vivo breast specimens. Sensitivity of HSI for cancer detection ranged from 74% to 98.9%; whereas specificity ranged from 76% to 97%. Wavelengths utilised ranged from 380 to 1700 nm. Data acquisition timed varied from one second to ten minutes.
Conclusion: HSI is a rapid, non-contact device that allows discrimination between normal and malignant breast tissue. Technology development, including extending wavelength ranges to include the near infra-red region may improve the accuracy of cancer detection; as well as providing improved depth penetration towards margin control in ductal carcinoma in-situ.

P098

SELECTIVE USE OF CHEMICAL VENOUS THROMBOEMBOLISM PROPHYLAXIS IN PATIENTS UNDERGOING BREAST SURGERY

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Introduction: Breast surgery is mostly day case and does not affect patient mobility as compared to orthopaedic and abdominal surgery. A document by The American Society of Breast Surgeons on venous thromboembolism (VTE) prophylaxis has been recommended by The Association of Breast Surgery. Caprini scoring is suggested to assess the VTE risks, if score is more than 5, chemoprophylaxis is recommended. There are variations in practice for chemoprophylaxis in breast units across UK, mostly based on clinicians' preferences. The aim of this audit was to assess the safety of modified chemoprophylaxis in patients undergoing breast surgery.
Method: All patients having surgery under the care of single surgeon using

modified VTE chemoprophylaxis criteria from June 2021 to May 2022 were included.
Result: 125 patients (average age 54.6 years, BMI 27.6 and surgery duration 93 minutes) were identified, all were prescribed thromboembolic decompression (TED) stockings and flowtrons. 28% (n=35) had prophylactic low molecular weight heparin (LMWH). 69% (n=86) did not receive LMWH; in this group, 1 event of pulmonary embolism was recorded 50 days after surgery, this coincided with diagnosis of metastatic disease and commencing of chemotherapy. 69% (n=86) of patients have Caprini score of 5 and above, it was lower than 5 in 31% (n=38). Despite caprini scoring of more than 5, 64% (n=55) did not receive LMWH and had no thromboembolic event.
Conclusion: It is safe for patients undergoing breast surgery using modified criteria for chemical VTE prophylaxis. Hence, we propose a modified Caprini score for breast cancer surgery.

P099

HOW HEALTHY IS HEALTH TOURISM?

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Health tourism is increasing with breast augmentation being a favoured procedure. Patients are seduced by low costs and the promise of a holiday. What is not included is appropriate aftercare and reassurance of a validated and indemnified UK surgeon to rely on in the event of complications. The burden falls onto the NHS. The legal implications of managing these patients are poorly defined however recent guidance from ABS is welcomed. We aim to identify the impact of such complications on NHS resources within our breast unit.
Methods: Data were collected over 12 months relating to patients presenting with complications following cosmetic breast surgery abroad. Investigations, follow, and management were recorded. Photographs were taken and are presented with consent. Hospital legal team were contacted for advice on management beyond the emergency setting.
Results: Five patients were identified, all had wound infection, two with dehiscence. Only one patient had cosmetic insurance and returned to the operating surgeon abroad. A further patient is requesting implant removal 6 weeks after their placement abroad. The overall time spent on follow-up/clinic is about five 30-minute visits. The cost of non-life-threatening treatment averaged £950 per patient. Our legal team were non-committal with their support for how we should manage these patients beyond emergency care.
Conclusion: High quality patient care and treatment is provided to those presenting with emergency breast complications. There are significant costs associated with management beyond the emergency setting. ABS guidelines are welcomed to support NHS teams in redirecting patients to the private sector for non-emergency care.

P100

AXILLARY RADIOTHERAPY IS A SAFE ALTERNATIVE TO SURGERY IN SELECTED PATIENTS WITH CN1 DISEASE

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Introduction: Randomised data exists to support axillary radiotherapy (RT) or no further axillary treatment beyond sentinel node biopsy (SNB). Data are lacking to guide the management of cN1 disease. Current UK recommendation for pN1 disease post neoadjuvant chemotherapy (NACT) is ALND. In 2015 our policy changed to RT for selected patients after MDT discussion.
Methods: Data were collected on patients with preoperatively diagnosed LN metastases in the 5 years from 2016 (registered audit ID 2484). The decision to offer axillary RT was made in the MDT based on clinical & radiological findings and disease burden in the axillary sample.
Results: Data were collected on 180 patients who had potentially curative breast surgery. 57% of patients had NACT with 50% axillary pathCR. 64 patients had axillary RT following positive SLN after NACT. There were 3 (4.6%) patients with axillary recurrence in this group. All had simultaneous distant disease. See table 1.
Conclusion: In the absence of randomised data to guide practice, these data show that in selected patients axillary radiotherapy is safe after axillary node sampling. The decision should be based on axillary burden, tumour biology, MDT and patient discussion. We await with interest the results of the Alliance A011202 trial.

Table 1

	n/mean	%
Number of patients	180	
Mean age	62.43	
Grade 3	88	48.62
ER positive	129	71.27
HER2 positive	35	19.34
NACT	102	56.67
	SLNB/RT	ALND
Number of patients	110	35
Median no. of nodes taken	4	15
Mean no. of nodes involved	1	5.97
Isolated axillary recurrence	0	2

P101

EVALUATING VARIATION IN PRIMARY ENDOCRINE THERAPY FOLLOW UP - INFORMING THE NATIONAL PETROC STUDY

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Background: Elderly patients with primary breast cancer are frequently treated with Primary Endocrine Therapy (PET). Most trials underpinning our evidence base for PET had intensive clinical and/or radiological follow up, however, current UK follow up practice varies widely. We performed a retrospective service evaluation of PET follow up to inform future work.
Methods: All patients treated with PET at the Royal Devon and Exeter Hospital between 01/01/2017 - 31/12/2019 were included and followed up until death or 31/03/2022 (audit no 21-54436). Clinical systems were interrogated to ascertain patient characteristics and treatment course.
Results: 65 patients were treated with PET due to frailty (32/65; 49%); patient preference (19/65; 29%); and advanced/irresectable breast cancer (14/65; 22%). 10 patients (15.4%) subsequently changed therapy - median time to change 11.5 months (IQR 7-22); 9 to a different medication, 1 had surgery. 46/65 (70.8%) died with a median survival 15 months (IQR 8-25.3) and median 1 (range 0-6) clinical encounters. 19/65 (29.2%) survived with median follow up 18 months (IQR 4.5-26) and median 4 (range 0-8) clinical encounters. Follow up regimens varied from face to face appointments every 3 months to patient initiated follow up.
Conclusion: Within a UK unit follow up for PET is inconsistent - national variation is likely to be greater. These results inform PETROC (Primary Endocrine Treatment: Rationalising Ongoing Care) - the forthcoming survey on PET follow up. This comprehensive, national, survey will be distributed through ABS channels and assess current UK practise and explore consensus for optimal follow up in patients treated with PET.

P102

GRANULOMATOUS MASTITIS - A SERVICE EVALUATION

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Introduction: Granulomatous mastitis (GM) is a benign, recurrent, inflammatory disease affecting the breast. There is a lack of strong evidence to support guidelines for management of this distressing condition. We performed an exploratory review of assessment and management of GM

over a five-year period in a large teaching hospital breast unit.
Methods: The retrospective, observational cohort study included all cases of GM diagnosed from 2015-present. Data included patient demographics, presentation, assessment, and management. Patient breast clinic attendance, total time in outpatient appointments related to GM, and other speciality input was also noted.
Results: 19 patients were identified with GM on tissue biopsy (median age 41 years). 53% belonged to black and other ethnic minorities, 47% were Caucasian. 63% had no co-morbidities. 90% were non-smokers. 10% had bilateral and 38% multifocal disease. Most patients scored R3/U3 or above on imaging. 58% attended outpatients for a period greater than 7 months. There was considerable heterogeneity in both assessment and management approaches (Table 1).

Table 1. GM assessment and management

	Yes (%)	No (%)
Specific tests for TB	84.2	15.8
Autoantibody screen	47.4	52.6
Blood-borne virus screen	47.4	52.6
Other medical speciality input	57.9	42.1

Conclusion: The results demonstrate the significant morbidity and burden of care associated with Granulomatous Mastitis. Multidisciplinary care is necessary for both diagnosis and management. Bespoke, individualised patient information including a record of all medical input into assessment and management also may help to alleviate patient anxiety as well as streamline care between multiple medical teams.

P103

AN ACP LED COMMUNITY SERVICE MANAGING PRIMARY ENDOCRINE THERAPY BREAST CANCER PATIENTS

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Introduction: Primary endocrine therapy (PET) is utilized for patients with a hormone receptive breast cancer for whom surgery is precluded due to complex co-morbidities. Regular surveillance is required to ensure effectiveness of treatment, identify progression and manage side effects in a vulnerable patient group. Home visits are undertaken by an advanced clinical practitioner with the aim of providing a specialist dedicated service to ensure safe and personal care.
Methods: Home visits have been undertaken since 2018 to all patients who were commenced on PET. This involved a first review at 12 weeks and subsequent review three to six monthly. Patient and carer satisfaction questionnaires were provided.
Results: Since 2018 a total of 232 patients have been received home visits. 127 patients died during this period with only 1 patients' death being confirmed from metastatic disease. 8 patients experienced disease progression and required further oncological treatment. 2 underwent surgery to manage skin complications. 8 patients were discharged due to moving from the geographical area. Patient/carer questionnaires demonstrated high levels of satisfaction in all domains, scoring the overall satisfaction with the service 4 or 5 out of 5.
Conclusion: The home visiting service offers regular surveillance and ensures further treatment or changes of treatment are offered in a timely manner, to improve patient outcome. Home visits provide a dedicated liaison with an advanced clinical practitioner ensuring equitable access to support services to improve quality of life. The service provides a strong therapeutic relationship which contributes to providing individualized and personalized care.

P104

PRE-OP LOCALISATION OF IMPALPABLE BREAST LESIONS WITH A RADIOFREQUENCY IDENTIFIER DEVICE (RFID)

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Introduction: Impalpable breast lesions are traditionally localised with a wire to facilitate surgical removal. This method of localisation is associated with a number of logistical problems, the main one being the requirement to do the localisation on the day of surgery. More recently, a number of non-wire techniques have been introduced. We evaluated the performance of a RFID (LOCalizerTM) in this context.
Methods: 201 breast lesions in 200 patients (one bilateral) were localised with ultrasound-guided placement of LOCalizerTM. All patients subsequently underwent surgical removal of the lesion.
Results: Median age was 59 years (23-82). Preoperatively, 193 lesions (96%) were malignant and 8 were indeterminate (and subsequently proved benign). 123 lesions (61%) were detected by breast screening. In those undergoing neoadjuvant chemotherapy (NAC), RIFD was placed post-NAC. Median tumour diameter at placement was 10mm (range 0 [NAC patients with complete imaging response] to 46). RFID was recovered in all cases at surgery. The median weight of breast tissue excised was 36 grams (3.5-152). 30 patients required re-excision for close/involved margins (30/193, 15.5%).
Conclusions: In one of the largest single-centre evaluation of this RIFD device in Europe/UK, we found preoperative localisation with LOCalizerTM was a satisfactory alternative to wire guided excisions, with the added advantages of being able to localise lesions well in advance of surgery and patient comfort, without compromising on quality and safety.

P105

AUDIT OF POSITIVE PREDICTIVE VALUE (PPV) OF AGE AND SYMPTOM COMBINATIONS IN ONE STOP BREAST CLINICS

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Background: There has been increased focus on the OSBC and the redesign of pathways to improve their efficiency. NICE guidelines suggest a PPV of >3 as appropriate for a TWR referral. Our audit assessed which symptom and age combinations achieved this.
Methods: Following local audit approval 10 weeks of female referrals to OSBC where reviewed. Patient demographics, primary referral symptom and outcomes were recorded using letters, electronic records and MDT outcomes.
Results: 665 female patients (mean age of 49, range 13-93) who had a complete set of data were identified (incidentaloma referrals were excluded). The primary referral symptoms were breast lumps (55.8%), breast pain (22.3%) and axillary lumps (6.5%). Of the 665 patients 566 (85%) were discharged without a biopsy. The biopsy rate increased across age groups (10% if <40y/o, 15% if 40-70y/o and 25% if >70y/o). 37 patients (5.6 %) were diagnosed with cancer (32=B5b, 2=B5a, 3 other) and 10 had B3 changes.

Symptom PPV	<40 years old	40-70 years old	>70 years old	Symptom alone
Age Alone	1.1(2/188)	5.3(23/397)	17.5(14/80)	-
Breast Lump	0.8(1/121)	8.2(18/217)	32(13/40)	8.4(32/378)
Breast Pain	0(0/35)	0(0/93)	0(0/23)	0(0/151)
Axillary Lump	0(0/12)	7.4(2/27)	20(1/5)	6.8(3/44)
Skin/Nipple Change	6.6(1/15)	2.8(1/36)	0(0/8)	3.4(2/59)

Conclusion: This audit confirmed the increased rate of biopsy and cancer diagnosis in older women with PPV across a range of symptoms greater than 3. No patient referred with breast pain had breast cancer and supports alternative management of these patients. Given the high biopsy rate and PPV in >70y/o consideration should be given to prioritising them with appointments early in clinic.

P106

GYNAECOMASTIA CLINIC: ALLOWS SAFE MANAGEMENT & ADHERENCE TO CANCER TARGETS IN THE BUCKS BREAST UNIT

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Introduction: Gynaecomastia is a common condition in men. Male breast cancer is rare, accounting for 0.6% of breast cancer cases in the UK (approximately 400 men diagnosed annually). Men referred to the 2 Week Wait (2WW) clinic for investigation of breast symptoms are frequently diagnosed with gynaecomastia rather than breast cancer. These referrals impact the 2WW cancer pathway and breast clinic resources.
Aims: To examine the male 2WW referrals to our unit and explore the feasibility of a separate gynaecomastia clinic outside the 2WW pathway.
Methodology: A retrospective review of male patients referred via 2WW pathway to the Bucks Breast Unit at Wycombe Hospital from September 2021 to August 2022. Key demographic data including presenting symptoms, investigations undertaken, presence of causative factors for gynaecomastia, and final diagnosis were captured.
Results: Of 291 patients referred, 7 were diagnosed with breast cancer, all unilateral, with abnormal clinical findings on examination, the youngest patient 57 years old. 214 were diagnosed with gynaecomastia, aged 11 to 95, (table 1), 61 of which had bilateral gynaecomastia. Causative factors were identified for 120 gynaecomastia patients (table 2). Only 35 patients had gynaecomastia screening bloods requested prior to referral. 45 patients had 'other' diagnoses (table 3), and in 25 referrals no pathology was identified.
Conclusion: Younger patients (<50) with bilateral breast symptoms and benign examination could potentially be safely managed through a separate Gynaecomastia clinic from the 2WW pathway, with expedited management if baseline screening gynaecomastia bloods were requested prior to referral.

Table 1

Age Range	Male Gynaecomastia n=214	Male Breast Cancer n=7
0-10	0	0
11-20	16	0
21-29	20	0
30-39	38	0
40-49	24	0
50-59	30	1
60-69	26	1
70-79	36	2
80-89	17	2
90-99	7	1

Table 2

Medication induced	72
Endocrine pathology	20
Alcohol	16
Illicit drug use/anabolic steroids	15
Protein shakes/supplements	8
Liver disease	4
Puberty	1

Table 3

Breast Lipoma	18
Benign cysts	10
Pseudogynaecomastia	6
Fat necrosis	4
Reactive axillary lymphadenopathy	2
Angiolipoma	1
Primary other cancer (leiomyosarcoma)	1
Secondary metastatic cancer (melanoma metastasis to breast)	1
Fibroadenoma	1
Seroma (post-operative)	1

P107

PRE-NACT STAGING IN BREAST CANCER: ARE THEY NEEDED IN ALL?

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Introduction: De-novo metastatic breast cancer is seen in around 5%. Staging investigation is recommended in women with T3 or T4 tumours, with N2 nodal disease and in those with symptoms suggestive of metastatic disease. NCCN guidelines also recommend in women referred for neoadjuvant chemotherapy (NACT). We aim to determine factors associated with metastatic disease in women referred for NACT
Methods: We retrospectively reviewed all women referred for NACT during 1st Jan 2019 till 30th Sept 2022 who had staging done. We excluded women with previous breast cancer or with symptoms of metastatic disease.
Results: 208 women with 212 cancer met inclusion criteria. Their median age was 51 years. 102 women (49%) were postmenopausal. 84% (n=176) were symptomatic. The median tumour size on ultrasound was 28mm. Oestrogen receptor (ER) and progesterone receptor (PR) positivity was seen in 51% and 41% respectively. HER2 was overamplified in 41%. T1, T2, T3 and T4 disease was seen in 14%, 62%, 9% and 15% respectively. Lymph node positivity was seen in 59%. Metastatic disease was identified in 16.34% (n=34). The factors affecting risk of metastatic disease were postmenopausal status (p=0.032), T4 disease (p=0.000), nodal positivity (p=0.030). None of the patients with T1 disease had metastatic disease.
Conclusion: Staging Investigation identified metastatic disease in 16.34% of women referred for NACT. None of women with T1 disease with or without lymph nodal involvement had metastasis.

P108

EFFICACY & SAFETY OF TRASTUZUMAB DERUXTECAN IN BREAST CANCER: A SYSTEMATIC REVIEW & META-ANALYSIS

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Introduction: Trastuzumab deruxtecan (T-DXd) is a novel antibody-drug-conjugate (ADC), primarily used in the treatment of HER2-positive breast cancer. This study aimed to conduct a systematic review to evaluate the efficacy and safety of T-DXd in treating breast cancer, based on clinical trials.
Methods: A systematic search of the literature was conducted to identify clinical trials investigating the efficacy and safety of T-DXd in breast cancer. Clinical trials of any phase were included. Outcome measures were any adverse events and survival. Meta-analysis was conducted where possible. Pooled prevalence for each adverse event of any grade and grade 3 or greater were estimated. Progression-free survival (PFS), overall survival (OS) and objective response rates (ORRs) were also reported to evaluate the efficacy of T-DXd in breast cancer.

Results: A total of 1593 patients from 6 clinical trials were included. Common adverse events of any grade were nausea, anaemia, neutropenia, vomiting, fatigue, constipation and diarrhoea, occurring in greater than 30% of cases. In terms of adverse events of grade 3 or more, only anaemia and neutropenia occurred at a relatively high rate. Median PFS ranged from 11.1 to 22.1 months. There was evidence of a benefit of T-DXd compared to controls in terms of both PFS (OR:0.38; 95% CI 0.32, 0.45) and OS (OR:0.61; 95% CI 0.48, 0.78). ORRs ranged from 37% to 79.9%.
Conclusions: The present systematic review shows evidence that T-DXd is a safe and effective agent in the treatment of breast cancer based off currently available data, however further studies are required to fully elucidate its potential.

P109

FLUORESCENCE GUIDED SURGERY IMAGING SYSTEMS FOR BREAST CANCER IDENTIFICATION: A SYSTEMATIC REVIEW

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Introduction: Positive margins during breast conserving surgery (BCS) are a prevalent issue, resulting in re-operations and associated sequelae. Fluorescence guided surgery (FGS) aims to combat this problem through improved visual identification of breast tumours during BCS. This systematic review appraises the current evidence on FGS imaging systems for use in breast cancer surgery.
Methods: The study was registered on PROSPERO (CRD42021286487). Embase, MEDLINE, Web of science and Scopus were systematically searched for articles published before April 2022 using the Medical Subject Heading (MESH) terms 'Fluorescence' AND 'Breast Tumour' AND Surgery' AND 'Fluorescence imaging'. Studies were included if a fluorescence camera system was used to assess breast cancer.
Results: Overall, 1,182 articles were screened, of which 22 studies met the inclusion criteria. In total, 913 patients underwent fluorescent imaging for breast cancer tissue assessment. A range of tumour to background ratios (TBR) was observed (1.63 to 4.70). Six studies utilised FGS guidance for resection, reporting a positive margin resection rate of 5.4% to 12.5%. Eight studies recorded a sensitivity of 63% to 98% and specificity of 32% to 97%.
Conclusions: There are many factors integral to the camera systems compounded by differences in study protocols that influenced diagnostic accuracy as demonstrated by the large range of sensitivity and specificity. Studies require improvement in repeatability and reliability before they can be used to compare FGS systems in breast cancer. Further research should focus on assessing camera systems using a similar protocol and comparing pre-treated cases, different cancer subtypes, and assessing ergonomics.

P110

BREAST TRAUMA FOLLOWING ROAD TRAFFIC COLLISION: A SYSTEMATIC REVIEW AND NEW PROPOSED CLASSIFICATION

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Introduction: Currently, there is no official classification system confirmed to investigate, manage and follow-up cases of breast trauma, resulting in a paucity of guidance for the patient, clinician and lawyer alike.
Methods: In July 2022, searches were carried out on the medical databases EMBASE, MEDLINE and PUBMED using search terms: Breast injury AND traffic accident; Breast trauma AND traffic accident; Breast trauma OR Breast injury AND seatbelt. A separate search was done on Westlaw, a legal database.
Results: 312 articles were found - 231 via medical databases and 81 using Westlaw. When screened for suitability, 42 articles were included (32 and 10 from medical and legal databases, respectively). There were 34 cases of skin injury; 25 cases of change to gross breast appearance; 18 cases of pain; 15 cases of a lump and 12 cases of haemodynamic instability. 41 of these cases were treated conservatively; 6 patients underwent interventional radiology; 14 patients had surgery; 1 had medical management; 2 received analgesia; the rest received a combination of therapies. Using these cases a new classification system was devised, outlining management based on presentation and including prognosis, based on that observed from cases identified (Table 1). This system should become an official reference for medical and legal circles.

Table 1

	Presentation	Management	Prognosis
Acute (Within 24 hours of injury)	Avulsion	Surgery - warn patients about potential future reconstruction	Can be life threatening; likely to require major reconstruction
	Rapidly expanding breast	CT angiogram +/- USS; IR embolisation/open vessel ligation; Capsulotomies if implants	Can be life threatening; likely to require major resuscitation
	Haemodynamic instability	Chest X-Ray to rule out rib fractures; USS if implants; Resuscitation measures; IR embolisation/open surgery	Can be life threatening; likely to require major resuscitation
Subacute (Weeks to months post-inury)	Skin changes e.g., bruising	Conservative	Likely to resolve
	Pain	Conservative e.g., analgesia; Consider referral to pain team	May resolve within 2 years; May be permanent
	Alteration of breast shape	Triple assessment	Alteration may be permanent; May require reconstruction
	Lump	Triple assessment	May resolve within months
Chronic (Months to years post-injury)	Pain	Conservative e.g., analgesia; Consider referral to pain team	May resolve within months to years; May be permanent
	On-going distortion including lump	Monitor for changes (Triple assessment); Oncological treatment if indicated; Reconstruction; Capsulectomy +/- implant exchange	Reduction may be satisfactory

Conclusions: All previously devised systems are currently biased towards the more traumatic and less frequent cases, leaving little information or guidance for patients or clinicians in the much more common, less traumatic cases. This classification solves these problems and could benefit patients if used nationally.

P111

RESTORE C19: OUTCOMES FOR WOMEN DENIED IMMEDIATE BREAST RECONSTRUCTION DURING THE COVID-19 PANDEMIC

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Introduction: As part of the emergency response to the COVID-19 pandemic, immediate breast reconstruction (IBR) following mastectomy was temporarily withdrawn to allow re-prioritisation of resources. The B-MaP-C study identified women treated during the 'Alert' phase who would normally have been offered IBR. The RESTORE C19 study aimed to explore ongoing management of this group.

Methods: Women not offered IBR during the initial phase of the COVID-19 pandemic were identified from the B-MaP-C REDCap database. Collaborating units were contacted and data submitted between December 2021 and July 2022 regarding the receipt of reconstruction or other surgery. Simple statistics were used to summarise the results. (Existing B-Map-C local audit approvals applied)
Results: Of 374 women not offered IBR due to COVID-19, follow up data was available for 302 (81%). Less than half of these had been seen to discuss DBR (n=142, 47%). At 28 months post mastectomy, only 22 (8%) women had undergone DBR: Most reconstructions (n=16, 73%) were abdominal free flaps with smaller numbers of women having expander/implants (23%) or pedicled flaps (4%). Of the 150 women detailed as planning DBR, just over half (n=77, 51%) remained undecided about their reconstructive options.
Conclusions: Hundreds of women not offered IBR during the COVID-19 pandemic are yet to receive or even discuss reconstructive surgery almost three years after their initial mastectomies. Qualitative work is ongoing to explore the experiences of this group, but a breast reconstruction recovery plan is urgently needed to support these women to move on with their lives.

P112

AN OBSERVATIONAL STUDY OF CONSULTATION DURATION IN A BREAST CANCER RESULTS CLINIC

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Introduction: Association of Breast Surgery (ABS) and National Institute for Health and Care Excellence (NICE) guidelines for surgeon's state that a Clinical Nurse Specialist (CNS) should be present to support a woman receiving a diagnosis of cancer at a results clinic.
New techniques for breast conservation and reconstruction mean preoperative discussions are increasingly complex. However, there are no recommendations relating to duration of appointments for CNS's or breast surgeons.
Current consultations slots range from 10 to 30 minutes.
Consecutive results consultations were analysed over a 4-week period in a District General Hospital to determine average duration of appointments and CNS involvement.
Methods: A pro forma was completed by CNS's and surgeons over a 4-week period from 24th October to 25th November 2022. Information collated included appointment time, appointment duration, reasons for delays, and type of appointment e.g., core results, surgical results, scan results etc.
Results: 54 patients received cancer results from their respective surgeons, 52 had face-to-face consultations and 2 had virtual consultations. Only 13% of patients had consultations lasting 10 minutes or less.
The average length of joint appointment was 45 minutes. However, a CNS was only available for 52% of appointments and when available spent an additional 20 minutes per patient.
Conclusion: In conclusion, appointment duration needs to increase to reflect complexity of patient consultations. Additional CNS support is required to ensure that we meet ABS and NICE standards with regard to joint appointments.

P113

VALIDATION SLNB STUDY IN POST NACT AXILLA USING LOW-COST DUAL DYES: SOLUTION FOR LOW RESOURCE CENTRE

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Background: Sentinel lymph node biopsy (SLNB) using radio-pharmaceutical and a blue dye is gold standard for axillary staging in clinically node-negative early breast cancer and increasingly being used for post NACT cN0 axilla as well. High costs and limited availability of radio-pharmaceutical and/or gamma probe are major deterrents in performing SLNB in developing countries. In this study, we evaluated feasibility of SLN identification (SLN-IR) of fluorescein-guided (FG) SLNB in combination with methylene blue dye (MBD).
Methods: This was a prospective cross-sectional non-randomized validation study in patients with post NACT clinically node negative axilla. Patients underwent validation SLNB using fluorescein (and blue LED light) and MBD. Axillary dissection was performed irrespective of SLNB histology. SLIN-IR and False Negative Rate (FNR) were assessed.
Results: The SLNs were identified in 51 out of 56 (91%) post Neoadjuvant Chemotherapy (NACT) patients. The median number of sentinel lymph nodes identified 1 (range 1-3) in post NACT patients. The SLN-IR using MBD was 91%, FD was 85%, and combined MBD FD was 89%. The false negative rate (FNR) was 7.8% (MBD), 8.3% (FD) and 7.8% (MBD+FD)
Conclusions: This prospective validation study showed adequate SLN-IR and FNR using low cost dual dyes in post NACT cN0 patients and can be used in low resource settings.

P114

MAGSEED WIDE LOCAL EXCISIONS - THE FIRST 50

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Introduction: Prior to 2021, impalpable tumours in our unit were localised with Somatex wires. During the COVID pandemic we introduced Magseed due to its logistical advantages in allowing surgery on a site distant from our breast unit. We wanted to ensure our clinical outcomes with this new system were equivalent to those using wire localisation.
Methods: Electronic records for the first 50 consecutive Magseed localised wide local excisions and the preceding 50 consecutive wire localised wide local excisions were compared. Excision biopsies, palpable lesions, bracketed lesions and post neoadjuvant treatment patients were excluded. Patient demographics, tumour size, inadequate radial margin involvement rate, reoperation rate for margins, specimen weight, number of cavity shaves and operative time were recorded.

Table 1

	Wire Guided	Magseed guided	
Mean age	61 (range 39-88)	62 (range 40-85)	p=0.8 (Student's T-test)
Mean radiological size	14.6 mm (range 4-45)	12.3 mm (range 2-34)	p=0.18 (Mann-Whitney U)
Mean pathological size	18.5mm (range 2-50)	18.3mm (range 4-74)	p=0.73 (Mann-Whitney U)
Axillary procedures	3 ANC, 34 SLNB, 13 no procedure	3 ANC, 40 SLNB, 7 no procedure	
Mean specimen weight	46g (range 7-126)	48g (range 16-104)	p=0.41 (Mann-Whitney U)
Mean number of shaves	0.46 (range 0-6)	0.62 (range 0-3)	p=0.28 (Mann-Whitney U)
Number of patients having cavity shaves	30%	40%	p=0.29 (Pearson Chi2)
Rate of inadequate margins	20%	12%	OR 0.54 (0.18-1.63, Pearson Chi2 p=0.28)
Rate of reoperation for margins	16%	10%	OR 0.58 (0.18-1.92, Pearson Chi2 p=0.37)
Mean operative time	57 minutes (range 12-129)	54 minutes (range 27-113)	p=0.22 (Mann-Whitney U)

Results: Results are shown in table 1. There were no preoperative differences in the two groups. There were no significant differences in outcomes between the two groups, with a trend towards lower margin involvement rates but more shaves in the Magseed group. The mean operative time was slightly shorter in the Magseed group despite more axillary procedures being performed in this group.
Conclusions: The change to the Magseed system led to logistical advantages with patient outcomes at least equivalent to wire guided excision.

P115

CAN WE SAFELY AVOID BIOPSYING P2U2 BREAST LESIONS IN FEMALES <30 YEARS OLD? A SERVICE EVALUATION

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Introduction: Fibroadenoma (FAD) is the most common benign breast lesion. Association of Breast Surgery (ABS) guidelines suggest histological assessment of any lesions in women >25years old. Taylor et al (2019) propose a non-biopsy policy for FAD in women aged between 25-30years when strict clinical and radiological criteria are fulfilled. Retrospective analysis of our local practice between 2017-2018 mirrored Taylor et al findings. Thus, we adopted a similar non-biopsy protocol at Thirlstaine Breast Care Centre (Cheltenham) from January 2020. Here we review our new non-biopsy protocol.
Methods: A prospective database of consecutive symptomatic (P2U2) women aged <30 years whom attended Thirlstaine Breast Care Centre (Cheltenham) between January 2020-October 2022 was collated. Their personal demographics, radiological and clinical outcomes were analysed.
Results: This study included 51 women. No cancers were diagnosed within this cohort. 10% (5/51) were re-referred at a later date for the same lesion. Repeat clinical and sonographic evaluation again confirmed P2U2 lesions. Sub-group analysis demonstrated 61% (32/51 women) were aged between 25-30 years. Within this cohort, no excision biopsy were required. 1 patient requested a core biopsy which confirmed FAD. 2 women from the ≤25 year old cohort (19/51) underwent excision biopsy due to pain and size of their lesions. Histopathology confirmed FAD
Conclusions: Our non-biopsy protocol is in accordance with Taylor et al study. The protocol avoids patients' psychological distress awaiting biopsy results, along with substantial financial savings within the department. Furthermore, ultrasound advances such as, shear-wave elastography (SWE) will only further sonographic accuracy of U2 lesions.

P116

IMPACT OF COVID-19 ON BREAST CANCER

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Introduction: Covid-19 pandemic still poses significant and overwhelming challenges to the delivery of oncological care. The aim of our study was to see if patients with breast cancer presented with higher TNM stage during post Covid-19 period and if the route of presentation through symptomatic route was higher when compared with patients diagnosed before Covid-19.
Methods: Retrospective review of all breast cancer patients diagnosed between January 2022-June 2022 ('post Covid-19') and a similar 6 months period between January 2019-June 2019 ('pre Covid-19'). We studied their TNM stage and also the route of presentation (screening programme or symptomatic clinics) during the two periods.
Results: Altogether 279 breast cancer patients were identified, 154 (55.2%) in 'post Covid-19' period and 125 (44.8%) in 'pre Covid-19' period. Higher number of cancers presented through the symptomatic route in post Covid-19 period (63% vs 53.6%, p=0.418). Patients with T3-T4 tumours were higher in 'post Covid-19' group (20.8% vs 12.8%, p=0.138). N2-N3 disease was significantly higher in 'post Covid-19 group' (7.1% vs 0.8% p=0.013). Distant metastasis was observed in 5.2% and 4.8% patients in post and pre Covid-19 group respectively (p=0.886).
Conclusion: Our study showed that there was significantly higher N2-N3 disease in post Covid-19 era. There was also an increase in T3-4 stage cancers and higher symptomatic route presentation during post Covid-19 but this was not statistically significant. This could have led to escalation in the type of surgery they required, more chance of adjuvant chemotherapy and possible reduced overall survival.

P117

SURGICAL OUTCOMES OF BREAST CONSERVING SURGERY PERFORMED UNDER LOCAL VERSUS GENERAL ANAESTHESIA

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Background: Surgical resection remains the mainstay for early breast cancer. However, older patients with multiple co-morbidities may be deemed unsafe for general anaesthesia (GA). The Covid-19 pandemic necessitated some such surgery under local anaesthesia (LA) especially those who lacked anti-hormonal bridging therapy option. We present a retrospective study comparing outcomes following breast conserving surgery (BCS) under LA and GA.
Methods: 31 patients under LA (April 2018-March 2022) were compared with 31 age-matched patients under GA during the same period. Main outcomes were length of hospital stay and rates of margin positivity, re-operation, and post-operative complications within 1 month (including wound infections, seromas needing ≥3 aspirations). Statistical analysis (with R-4.2.2) used two-tailed test with significant p-value (<0.05).
Results: Only 5 LA cases were performed in the 2 years prior to first UK Covid-19 lockdown (March 2020), whilst 26 cases were performed in the 2 years after.

	LA	GA	P-values
Number of cases	31	31	
Mean age	74	73.4	
Mean size(mm)	16.6	23.1	
Axillary surgery(SLNB/ANC)	3/0	28/1	
Complications	2	4	0.39
Positive margins	3	8	0.096
Re-operation	1	5	0.086
Length of stay>24hours	0	10	<0.001

Conclusions: The number of BCS cases under LA increased five-fold following Covid-19 pandemic. Outcomes under LA were no worse than under GA. BCS under LA can allow BCS in patients unfit for or unwilling to have GA, especially older patients. Dedicated lists for BCS under LA may reduce need for resources such as hospital beds and overnight stays in the current resource and financially constrained health-care system.

P118

IMPACT OF CARRIER STATUS IN THE SETTING OF BREAST CANCER DIAGNOSIS

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Background: Dedicated genetic carrier clinics provide optimal tailored treatment, promote cancer prevention, and allow informed choices to be made. The primary objective was to evaluate the patients presenting with breast cancer found to be gene carriers (affected group) in our dedicated clinic compared to the asymptomatic referred patients already proven to be a gene carrier (predictive group) who subsequently developed breast cancer and secondarily to appraise the use of risk reduction breast surgery (RRBS) in both groups.
Methods and materials: Prospective data collected from referrals between 2011 and 2022 was reviewed for carrier status, affected or predictive status, age at carrier diagnosis, breast cancer diagnosis, and if RRBS

was performed. Patients with inadequate records were excluded.
Results: 377 of 410 patients were included. 160 were BRCA 1, 194 BRCA 2 and 3 positive for both. 9 patients were PAL B2 and 5 carried CHECK 2, of which 3 also had a BRCA 1 mutation. 15 patients had other unidentified genes. 126 were in the affected group (33.42%) with 251 predicted carriers (66.57%). The median age at carrier diagnosis in the affected patients was 47 (range 22-74) compared to 42 (range 19-69) in the predictive group with 16/251 developing breast cancer subsequently (6.37%). 73/251 predictive patients had RRBS (29.08%), compared to 90/126 affected patients (71.43%). The remainder continued annual surveillance with expected or planned future RRBS or transferred to a local unit.
Discussion: RRBS was higher in the affected group compared to asymptomatic carriers and reflect differing management considerations and patients own risk evaluation.

P119

FLUORESCENCE AND MULTISPECTRAL IMAGING USE FOR TUMOUR IDENTIFICATION IN BREAST CONSERVING SURGERY

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Introduction: Fluorescence guided surgery (FGS) could decrease the 19% positive margin rate in breast conserving surgery. Multispectral imaging (MSI) compliments FGS to improve surgical precision. We evaluated the accuracy of custom-made FGS and MSI systems in freshly-excised tumours using Aminolevulinic Acid (5-ALA) to induce fluorescence.
Method: Ten patients were recruited to a feasibility study after UK Research Ethics Committee (19/LO/0927) approval. 2 - 4 hours before surgery, patients were administered 20 mg/kg 5-ALA. Both systems imaged the *ex-vivo* specimen surfaces. Histopathology aided ground truth extraction. A logistic regression model (LRM) extracted the pixel-dense tumour probability and results were 5-fold cross-validated with receiver operating characteristic (ROC) analysis.
Results: Ten women [median (range) age=60 years (38-78), median (range) body mass index=29.1 (19.2-42.0)] were enrolled. Nine images were marked for ground truth. FGS and MSI validation reached an accuracy of 0.80 (0.2) and 0.67 (0.2), respectively. Surface classification results are shown in Table 1.

Table 1. LRM classification results.
TP: true positive, TN: true negative, FP: false positive, FN: false negative *ER+HER2-, **triple+ case

Image ID	Type	FGS	MSI
1	IDC+DCIS*	TN	TN
2	IDC*	FN	TP
3	IDC*	FP	FP
4	IDC+DCIS**	FP	TN
5	ILC+ISLN*	TP	FN
6	IDC+DCIS*	TN	TN
7	IDC*	TP	FN
8	ILC*	TP	TP
9	ILC*	TP	TP

Conclusion: MSI underperformed FGS but identified 1 positive surface which was missed by FGS. Therefore, MSI could potentially improve the FGS accuracy. We will investigate this with a bigger sample size and optimal MSI wavelength bands.

P120

SATISFACTION SCORES OF 561 PATIENTS ATTENDING A LOW-RISK BREAST CLINIC

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Introduction: Due to increasing referrals, alternative approaches to the traditional one-stop clinic are required to ensure timely review of all patients being referred into breast services. We describe the satisfaction of patients attending alternative, low-risk breast clinic undertaken on weekends as a waiting list initiative (WLI).
Methods: Low-risk was defined as any patient under 40 years or over 40 years with symptoms other than a lump. WLI clinics were undertaken by consultant surgeons and consultant radiologists with breast ultrasound available. If indicated, pre-clinic mammogram was undertaken and reported at clinic. The anonymised, voluntary survey given after appointment ran over 3 months of consecutive WLI clinics.
Results: 561 patients participated, an estimated patient response rate of 83%. 89% patients (n=500) reported feeling anxious before attending clinic. Following their appointment 19% (n=104) still felt anxious. In patients requiring pre-clinic mammogram, 64% (n=177) reported preference to same visit mammogram. However, 74% would not be willing to wait 3 months for same-visit mammogram. In patients reporting breast pain (n=444), 95% reported preference to clinical review versus telephone consultation only. 99% (n=558) reported either 'satisfied' or 'extremely satisfied' with their clinic appointment. Regarding appointment times, only 19% (n=74) selected midweek as preference.
Conclusions: Patient satisfaction after attending low-risk WLI clinics was extremely high. Most patients preferred the in-person and weekend format of the clinics. Most felt less anxious about their symptoms following attendance and valued being seen faster over having a mammogram on the same day.

P121

AUDIT OF NEW PATIENT AND FOLLOW UP CLINIC CASELOADS

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Introduction: The ABS Best Practice Guidelines for Surgeons in Breast Cancer Screening state a surgeon must have "an annual surgical caseload of at least 30 treated breast cancers". However, there is no definition of an upper limit that can safely be seen before there is a negative impact on patient safety and surgeon burnout.
Method: A small-scale audit was performed between June and July 2022 examining the number of patients seen in new patient clinics and the time taken to conduct follow up clinics.
Results: Of 96 new patient clinics, 51 were run by a single clinician, 41 by two clinicians and 4 by three. Single clinicians on average saw 10.27 patients with an additional 2.62 patients on day additions. Two clinicians saw 13.71 patients, 2.87 extra. Teams of 3 saw 24.35 patients and an additional 3.7 patients. In 16 follow up clinics an average of 8.97 patient were seen with an average consultation length of 16.51 mins. Each clinic has an allocation of 180 mins, with the current length of an average clinic reaching 148 mins not including any administrative tasks.
Conclusion: Routinely new patient clinics are overbooked, and not enough time is allocated to follow up clinics. This potentially could lead to clinician burnout, sub-optimal care, and reduced patient safety. A new electronic patient record is currently being implemented; a follow up audit will be performed examining the impact of the new electronic system on the Breast Surgery clinics.

P122

ASSESSMENT OF COST-EFFECTIVENESS OF DRAIN-FREE VERSUS DRAIN USAGE FOR GENDER AFFIRMATION MASTECTOMY

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Introduction: Surgical drain is commonly used following mastectomy to prevent seroma, however the benefit is uncertain. The aim of this study is to evaluate cost effectiveness of surgical drains free for GAM.

Method: A retrospective comparative cohort study was carried out of patients having GAM in two time periods. The drain group (DG) data was collected between 01/01/2019 and 31/01/2020, the drain-free group (DFG) between 01/04/2021 and 08/03/2022. Data was collected on age, BMI, incidence of seroma, haematoma, wound infection, and dehiscence. The drain cost, different sutures, compression vest and clinic attendances were calculated for each group. The groups were compared with Mann-Whitney U test for age, t-test for BMI, Chi-square test for the outcomes.
Results: There were 97 patients in both groups. There was no difference between groups for age (median age DG: 24 years, range 15 - 55years DFG: 24, range 19 - 48years, P=0.8) or BMI (DG mean: 25.7 ± 5.01 kg/m2, DFG mean: 26.5 ± 5.6 kg/m2,P=0.3). No difference between groups was observed in the incidence of seroma (DG: 4, DFG: 1, P=0.17), wound infection (DG: 4, DFG: 3, P=0.7) or dehiscence (DG: 0, DFG: 1, P=0.32). The incidence of haematoma was lower in the DFG (DG: 7, DFG: 2, P=0.08). DG patients required one additional clinic appointment (for drain removal) compared with DFG patients. The total cost of consumables and appointments for DG and DFG was £93.39 and £77.96 respectively.
Conclusion: Drain-free GAM has cost-saving benefits. Although this monetary difference is small, there are likely to be further economic benefits due to improved clinic utilisation.

P123

BONE SCANS IN BREAST CANCER: WHY ARE WE STILL DOING THEM?

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Introduction: Current guidance on breast cancer staging using bone scintigraphy (MDP) recommends that these are not routinely required in addition to staging CT-scans without bony symptoms.
Rationale: Our unit historically performed combined CT plus MDP scans for all node positive breast cancers. We retrospectively audited the adherence to guidance regarding MDP staging in all breast cancer diagnoses in 2019 in our unit.
Methods: Retrospective data collection for all breast cancer patients in 2019, including; predicted staging, operative intervention, histology, staging CT and MDP scan results. Specifically, concordance between CT and MDP analysis was compared.
Results: Of the 312 operatively managed breast cancers in 2019, 38% (n=120) had a staging bone scan and staging CT. Of the scans performed, 15% (n=18) had evidence of bone metastases on CT and 15% (n=18) had evidence of bone metastases on MDP. Only 4 patients had metastases on MDP scan that were not identified on CT scan reporting. However, 3 out of 4 were subsequently identified at MDT imaging review as evident on CT also. Staging CT was therefore found to have 98% Sensitivity and 94% Specificity in diagnosing bony metastases when compared to NM Bone scans:

	Bone scan	
CT Scan	Positive	Negative
Positive	17	2
Negative	1	100

Conclusion: Our data reveals that bone scintigraphy does not add significant further information beyond CT scan staging, supporting current recommendations that it is not routinely required for staging breast cancer, but rather as an adjunct in the context of bone symptoms.

P124

THE ACCURACY OF MRI IN DETECTING COMPLETE RESPONSE AFTER NEOADJUVANT CHEMOTHERAPY IN BREAST CANCER

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Background: Pathological complete response (pCR) following neo-adjuvant chemotherapy (NACT) for breast cancer is associated with improved disease-free and overall survival in certain breast cancer subtypes. Magnetic Resonance Imaging (MRI) is increasingly used as standard to assess treatment response in patients receiving NACT. The aim of this study was to determine the clinical utility of MRI in accurately predicting pCR post-NACT.
Methods: A single-centre, retrospective study was conducted in breast cancer patients, who received NACT between 2013 and 2020. Patients who had an MRI before and after NACT were included. Pathological and MRI radiological response rates to NACT were analysed and MRI accuracy assessed in detecting pCR according to breast cancer subtype.
Results: Forty-one of the 167 included patients achieved pCR (24.6%), with the highest proportion in HR-HER2+ subgroup (58.3%), followed by triple negative breast cancer (TNBC)(35%). Only 22.2% and 10.5% of patients with HR+HER2+ and HR+HER2- respectively achieved pCR. The overall accuracy of MRI in predicting pCR after NACT was 77.3%. The greatest accuracy was in TNBC (87.5%) with a specificity and positive predictive value (PPV) of 100% and the highest number of correctly diagnosed complete responses (14/40). MRI was less accurate in predicting response rates in HR+HER2- (PPV 91.2%) and HR+HER2+ groups (PPV 90.5%). MRI performed significantly better in predicting complete response in TNBC compared to HR+HER2- subtype (p=0.0057).
Conclusion: MRI is a clinically useful adjunct in assessing pCR following NACT and appears to predict pathological response more accurately in TNBC compared to HR+HER2- breast cancer subtypes. This has significant clinical implications in terms of surgical planning, adjuvant treatment options and prognosis.

P125

EXPLORING NEUTROPHIL-LYMPHOCYTE RATIO AS A PREDICTOR OF POSTOPERATIVE BREAST CANCER RECURRENCE

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Background: Neutrophil-lymphocyte ratio (NLR) is an emerging prognostic biomarker with potential utility in solid malignancies. Routine inclusion of the full blood count in preoperative workup and postoperative course positions NLR as a cost-effective adjunct in surveillance. This project explores associations between preoperative NLR and breast cancer recurrence.
Methods: This retrospective cohort study, approved by University Hospital Limerick (UHL) ethics committee, reviewed an institutional database of breast cancer patients undergoing primary curative surgery at UHL from January 1, 2010 to June 1, 2017. Primary endpoints were local recurrence and distant metastasis at five years. Logistic regression modelling examined the association between preoperative NLR 2.5 and each endpoint, controlling for confounders.
Results: In the included cohort of 579 cases, the recurrence rate was 15.7% (6% local recurrence and 9.7% distant metastasis at five years). This cohort had a median preoperative NLR of 2.63 (Standard deviation 1.42). No relationship was found between NLR 2.5 and local recurrence at five years. Patients with NLR 2.5 had a two-fold increase in rate of distant metastasis at five years (Odds ratio 2.00, 95% confidence interval 1.05 - 3.81, p-value =

0.036), after adjusting for oestrogen receptor status, HER2 status, endocrine therapy, node-positive disease and pathological stage T3 or T4.
Conclusions: Preoperative NLR 2.5 was found to be an independent predictor of distant metastasis at five years following adjustment of confounders. This finding is consistent with published literature and may have profound impact on surveillance of breast cancer upon further validation.

P126

PINK OCTOBER ANXIETY: BALANCING BREAST SELF AWARENESS AND ANXIETY LEVELS DURING OCTOBER AWARENESS

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Introduction: October is the month for breast cancer awareness and pink ribbon and colour is seen everywhere to stress on early detection. This is intended for a positive influence to make general population aware of any suspicious changes at the same time it also create anxiety in general population especially students driving them for unnecessary self-referrals in symptomatic clinics.
Methods: We interviewed 510 females reporting to symptomatic self-referred clinics in two breast centres reported during the month of October 2022. 32 cancer patients were excluded from the study. We checked anxiety level from score 1 to 10.
Results: Majority of the patients presented with breast pain and breast lump noticed by patient but clinical evaluation was P1 .We also identified that almost 91% even do not have idea of proper breast self-examination and normal parenchyma was considered as lump when they examined themselves. Seven patients were under 15 girls whose mother brought them for evaluation of breast pain or breast lump which was developmental change. It was observed that moderate to severe anxiety before clinical examination and counselling was found in college students who recently attended lectures.
Conclusion: We suggest that breast cancer awareness campaigns be more focused and target desired population at risk of developing cancer and breast health information to younger females who likely to have physiological or benign change. Breast cancer information to school or college students may create unnecessary anxiety and panic.

Age Range median age 34 years	09 -69 years group 1 under 40 years (285), group 2 above 40 years (193)
Breast pain and fibrocystic condition	45%
Breast lump presentation	30% patient detected , 18 % P2/P3
Fibroadenoma	8%
Nipple discharge	6% (blood stained 01 patient remaining physiological)
Family history	3%
Others (nipple inversion, breast bud, physiological variation in size)	9%
Anxiety score 1-5	43% (variable age range mainly above 35 years)
Anxiety score 6 -10	67% (mainly school & college students and amongst age 35 years or less)
Awareness campaigns (TV, Radio, telephonic message and ringtone, print media, lectures, schools, college, university etc)	Increased anxiety level from phone text message and ringtone, lectures in schools and colleges

P127

FACILITATING DAYCASE MASTECTOMIES: IS THROMBIN SPRAY THE ANSWER?

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Introduction: The British Association of Day Surgery recommends 75% of mastectomies should be day case procedures. According to the Getting It Right First Time 2021 report, almost half of UK centres conducted 10% or less as day cases. We explored the use of Thrombin Spray (TS) and quilting of the skin flaps in facilitating drain free day case mastectomies.
Method: This single centre prospective audit, with trust approval, included patients undergoing a simple mastectomy over a 10-month period. We compared patients who had TS or quilting sutures or drain insertion. Primary outcomes were mastectomy day case rates, seroma formation and aspiration requirement.
Results: 39 patients were included, 34 single and 5 bilateral mastectomies. 86% (12/14) of TS patients were day cases compared to 42% (5/12) and 15% (2/13) in the quilting and drain groups respectively. 69% (9/13) of drain patients stayed overnight with 2 further patients requiring over 2 nights. Seroma rates were highest patients with TS, 57% (11/19) compared to 43% (6/13) in drain and 23% (3/13) in the quilting group. 5 TS and 3 drain patients required seroma aspiration compared to none in the quilting group.
Conclusion: The use of TS improved our day case mastectomy rate from 5.24% (3) to 86%. Quilting has better outcomes regarding reduced seroma formation and no aspirations required.

P128

BREAST CANCER GENOMICS CLINIC - A PILOT GENOMIC MEDICINE SERVICE ALLIANCE INITIATIVE

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Introduction: The Genomic Medicine Service Alliance (GMSA) is a national initiative, embedding genomics into patient pathways. Breast cancer (BC) risk assessment is a key part of this. The initial phase assessed the family history of patients in primary care. Those at moderate or above risk were referred to a novel clinic in secondary care. We discuss our experience in secondary care.
Methods: The BC Genomics Clinic was set in Birmingham. The initial phase involved a breast surgeon with an interest in BC genetics supporting 2 Band 6 Breast Care Nurses. This nurse-led initiative initially assessed those referred within this pilot study who had initial BC risk assessment using the FaHRAS Primary Care Software. In the initial phase, we used the Tyrer-Cuzick Version 8 software to calculate risk of those women referred to secondary care. We changed to the CanRisk webtool after discussion within the multi-disciplinary team. The rationale was that CanRisk was used in tertiary care by the genetics team and provided guidance in keeping with NICE (CG164).
Results: 13 patients were referred during the 6-month period. Using the risk algorithms, the majority of women assessed were deemed to be at moderate risk. We used this opportunity to discuss chemoprevention, lifestyle measures, breast screening and breast self-examination. 2 patients were referred on to tertiary based on their risk profile. There was high patient and staff satisfaction with this service.
Conclusion: The Genomics clinic can successfully link in with primary and tertiary care for risk assessment. Future work will incorporate mammographic density and SNP testing for personalised risk scoring.

P129

IS THERE A ROLE FOR VAE IN THE TREATMENT OF BREAST CANCER IN PATIENTS UNFIT FOR SURGERY?

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Introduction: Vacuum assisted excision (VAE) is used routinely to excise selected benign and indeterminate lesions. It is well tolerated and performed under local anaesthetic. Some have extended use of VAE to excise cancers in patients unfit for surgery. This is a retrospective review of our unit's practice in performing VAE on this cohort, unsuitable for surgery due to significant comorbidity/frailty.
Methods: Clinical-pathological and outcome data were collected on

consecutive patients identified via RIS (Radiology Information System) coding cross-referenced with the Scottish cancer audit registry between June 2018-August 2022, having undergone VAE for invasive breast cancer.
Results: 116 VAE procedures were identified (39xB1/2, 59xB3, 18xB5b lesions). Thirteen B5b VAEs were performed on breast cancer patients, deemed unfit for surgery. Of those, two patients had known tumours with progression on NET. The remaining 11 were newly diagnosed. Cardiorespiratory comorbidity was the commonest excluding factor for surgery. Median age was 73, median tumour size 12mm, four patients were triple negative. 85% had complete excision on post VAE imaging. Two patients had post-procedure haematoma, one requiring aspiration. 67% of ER positive patients were offered adjuvant letrozole and breast radiotherapy. 72% of patients with complete excision had since follow up mammography. No recurrences have been identified. Overall survival in the cohort was 85% (n=11), with no cancer-related deaths.
Conclusions: This novel cohort illustrates the feasible implementation of VAE in breast cancer patients, who are not surgical candidates. VAE can provide a means to debulk the primary tumour prior other/adjuvant therapy, or for local control when primary endocrine therapy has failed.

P130

ILC SUBTYPES - CLINICOPATHOLOGIC PROFILE AND RESPONSE TO NACT OVER A 15-YEAR PERIOD

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Introduction: Invasive lobular carcinoma (ILC) accounts for 10-15% of invasive breast cancers. Typical ILC is oestrogen receptor (ER) positive and human epidermal growth factor receptor 2 (HER2) negative. Atypical lobular subtypes (ER- and HER2+, ER+ and HER2+ or triple negative) appear to differ from typical ILCs. This study aimed to compare subtypes of ILC and their response to neoadjuvant chemotherapy (NACT).
Methods: All patients with ILC treated in a single centre from January 2005 to December 2020 were identified from a prospectively maintained database. Clinicopathologic and outcome data was collected and analysed according to tumour biology.
Results: A total of 582 patients with ILC were treated. Typical biology was observed in 89.2% (n=519) and atypical in 10.8% (n=63). Atypical ILCs were of a higher grade (35% grade 3 vs 9.6% grade 3, p<0.001). A greater proportion of atypical ILCs underwent NACT (31.7% vs 6.9% p <0.001). Atypical ILCs showed a better response to NACT measured with Residual Cancer Burden Score (RCB) (Mean RCB 2.46 vs Mean RCB 3.41, p=0.0365), as well as better pathological complete response rate (15% vs 0% p= 0.017). Despite this, overall, 5-year disease free survival (DFS) was seen to be better in those with typical tumours (91% vs 83%, p=0.001).
Conclusions: Atypical ILCs have distinct characteristics. They are more frequently of a higher grade and show better pathological responses to NACT. Despite this, atypical ILC have a worse 5-year DFS. As such, this should be considered in terms of prognostication and patient selection for NACT.

P131

AUDITS OF BREAST CANCER SERVICE IN A REGIONAL NHS TRUST AGAINST NATIONAL QUALITY PERFORMANCE INDEXES

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Oncologic and cosmetic outcome of breast surgery are essential in breast cancer treatment, patient survival and quality of life. A series of audits on breast cancer service in a regional NHS Foundation Trust (Western Sussex Hospitals) in England was conducted with reference to a set of Quality Performance Indexes (QPIs) developed by the national cancer quality programme established by the Scottish Cancer Taskforce. Data of patients who underwent surgery for breast cancer from October 2018 to October 2021 in Western Sussex Hospitals were collected retrospectively. Quality performance assessment of breast conservation rate, resection margin involvement and axillary lymph node biopsy rates was conducted. Across three years of regional audit data at Western Sussex Hospitals, the percentage of patients treated with small breast cancer tumours (less than 20mm whole tumour size on histology) undergoing breast conservation surgery was above the 90% target. The percentage of patients with radial surgical margins less than 1mm after breast conservation surgery was below the maximum QPI target of 5%. Among all patients with invasive breast cancer undergoing surgery with suspicious morphology reported on ultrasound, over 85% patients underwent FNA/core biopsy of the axilla before surgery. Overall, the breast cancer service of Western Sussex Hospitals achieved good comparative outcome, in comparison to the Scotland National Quality Performance Indexes. We suggest implementation of a national governance framework in England with regular reviews to improve the quality of breast cancer service, focusing on areas important for improving survival and individual care experience.

P132

SCOTTISH NATIONAL AUDIT OF BREAST CANCER IN OLDER PATIENTS (SNABCOP) - ARE THEY TREATED DIFFERENTLY

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Introduction: National Audit reports of Breast Cancer in Older Women (NABCOP) from England and Wales have led to recommendations to improve care. Scottish data were unable to be incorporated due to different data legislation. A Scottish (S)NABCOP was set up in 2020 with the view of conducting similar evaluation and to allow comparison to findings from England/Wales.
Methods: Data on all patients aged 50 and over, diagnosed and managed between 2011-2018 with breast cancer (BC) in Scotland were extracted, using Information Service Division Scotland (ISD). We assessed clinical management and outcomes in older women and explored any age and location related treatment variations between those <70 years and 70+ years.
Results: A total of 43,263 female breast cancers and 298 male breast cancers were identified. Over these 8 years, Scottish breast cancer incidence increased by 9.8%. 26,362 female BC were age 50-69 (group A). 16,901 were aged 70+ years (group B). 52.3% of group A were screening-detected, whereas 76.6% of group B presented symptomatically. Similar urban/rural distribution was noted between the two groups. 30.3% of group B were classified as Stage IIB and over (22% group A; p<0.001). However, only 61.1% of group B underwent surgery versus 94.1% of group A, less radiotherapy (B-36.8% vs A-70.4%), and less chemotherapy (B-8.1% vs A-36.6%; all p<0.001).
Conclusions: Preliminary analysis revealed that despite one third of patients aged 70+ presenting with more advance breast cancer, lesser standardised treatment was provided compared to their younger counterparts. The reasons for these variations require further evaluation.

P133

ULTRASOUND-GUIDED CONSERVING SURGERY FOR BREAST CANCER: NO MORE TIME FOR BLIND SURGERY

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Introduction: Despite all available tumour localization methods, breast conserving surgery (BCS) still remains a blind surgery. Intra-operative ultrasound (IOUS) allows real time visualization during all phases of resection.
Methods: This is a prospective observational cohort study conducted at Venetian Oncologic Institute between January 2021 and June 2022. Patients with ductal carcinoma in situ or T1-2 primary invasive cancer, suitable for BCS, were recruited. All types of breast tumours were enrolled: solid palpable; solid non-palpable; non-solid non-palpable; post-neoadjuvant treatment lesions. Eligible participants were randomly assigned to either IOUS or traditional surgery (TS) in a 1:1 ratio. Main outcomes were surgical margin involvement; re-operation rate; closest margin width; main specimen and cavity shaving margin volumes; excess healthy tissue resection; calculated resection ratio (CRR).
Results: We enrolled 160 patients, 80 allocated to TS and 80 to IOUS. IOUS significantly reduced specimen volumes (16.8 cm3 [10.5-28.9] vs 24.3 cm3 [15.0-41.3]; P=0.015), with larger median minimal distance to the resection margin (0.2 cm [0.1-0.4] vs. 0.1 cm [0.0-0.2] after TS; P<0.001) and reduced re-excision rate for positive margins (2.5% vs 12.5% after TS; P=0.032). Better improvements on tumour volume to specimen volume ratio were seen after IOUS (4.7% [2.5-9.1] vs. 2.9% [0.8-5.2]; P<0.001). IOUS yielded significantly better CRR (0.84 [0.46-1.20] vs. 1.14 [0.81-1.93] after TS; P<0.001).
Conclusions: IOUS is the only method allowing a true real time resection margin visualization during BCS. It showed clear superiority over TS both in oncologic and cosmetic outcomes for all breast cancer lesion types. These results disfavour the paradigm of blind breast surgery.

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RESTORE C19 NATIONAL PRACTICE SURVEY: THE POSITION OF UK DELAYED BREAST RECONSTRUCTION SERVICES

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Introduction: The offer of immediate breast reconstruction (IBR) was temporarily withdrawn for women requiring mastectomy during the COVID-19 pandemic to allow prioritisation of emergency care. Many women are now awaiting delayed breast reconstruction (DBR) surgery. This survey aimed to explore the current provision of DBR in the UK and how this had been impacted by COVID-19.
Methods: An online survey was distributed to UK breast units via the ABS/Mammary Fold newsletters and social media feeds between 10/2021 and 04/2022. Simple descriptive statistics were used to summarise the results.
Results: Of the 42 UK breast units that completed the survey, most units reported that COVID-19 had led to increased waits for DBR. Before the pandemic over three quarters of units reported waits of less than 1 year (29% <6 months, 45% 6-12 months) whereas currently waits of 12-24 months are common with a third of units reporting waits of 24-36 months. A small number of units reported waits of >3 years or that DBR had not yet restarted (14%). Key identified challenges for DBR services included limited availability of theatre time and consultant and/or theatre/nursing staff, and a lack of in-patient capacity for post-operative recovery.
Conclusion: Waiting times for DBR have been negatively impacted by COVID-19. As reconstruction is an integral part of women's breast cancer treatment, there is an urgent need to develop a recovery plan to address this issue, support patients and allow women to access reconstructive surgery in a timely manner.

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OTD'S COMBINED EFFECT WITH ANTI-NEOPLASTIC AGENTS IN TRIPLE NEGATIVE BREAST CANCER

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Introduction: Triple-negative breast cancer (TNBC) is limited on adjuvant therapeutic regimens and most effective agents are known to have toxic side effects. We evaluated the synergistic effect of the novel 1.4.5- Oxathiazine-4.4-dioxide (OTD) when combined with well-known chemotherapeutic agents in the treatment of triple-negative breast cancer.
Methods: TNBC metastatic cell line MDA-MB-231 was treated with fixed concentrations of OTD and increasing concentrations of carboplatin, doxorubicin, and paclitaxel for various time periods to assess cell viability.
Results: 2 drug combination with OTD resulted in the dose and time-dependent cell death of TNBC MDA-MB-231 cells. Notably, the additive effect of OTD increased cell death was noted when combined with very lower concentrations of these agents. Result analysis was performed with two-way ANOVA and a p-value of 0.05.
Conclusion: OTD is strongly cytotoxic to metastatic TNBC and this reveals it as a potential novel combination in the treatment of TNBC.

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PATIENT PERSPECTIVES AFTER SURGERY RELATED COMPLICATIONS AMONG BREAST CANCER PATIENTS FROM A LMIC

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Introduction: Long term quality of life in breast cancer patients has been studied and published regularly. However, the lived experiences of patients who develop complications after surgery are not well understood. Determining this experience of patients is challenging in most low- and middle-income countries where majority of patients belong to poor strata of society and are uneducated. We aimed to explore the thoughts, feelings, and experiences of patients with surgery related complications after breast cancer surgery.
Methods: Purposive sampling was used to identify patients who developed any post-operative complication and semi structured interviews were conducted. Common patterns of patient experiences were identified and analysed using descriptive thematic analysis.
Results: Twenty-eight patients out of 210 developing complications post-operatively were identified. Median age was 48 years (Range 32-65 years). Majority (n=26) were housewives, educated below primary level (n=11) and below poverty line (n=13). Complications included seroma (n=17) skin flap necrosis and infection, (n=5) and hematoma (n=1). Seven domains emerged from the interviews - Knowledge of complications, psychological impact, burden, disruptiveness, social impact, relationship with surgical team and suggestions to improve experience.
Conclusion: The themes identified in the present study provide insights into the lived experiences and can inform the future development of a patient-reported outcome measures and quality improvement programs, including more effective pre-operative counselling and consent.

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A SINGLE-CENTRE AUDIT ON OUTCOMES OF MASTECTOMY AND IMMEDIATE IMPLANT-BASED BREAST RECONSTRUCTION

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Introduction: iBRA (implant Breast Reconstruction evaluation) study has demonstrated that the complication rates in mastectomy and immediate implant-based breast reconstruction were higher than National Quality Standards from 2014 to 2016. This audit study aims to examine the corresponding data in our local hospital and compare it with the iBRA study and National Quality Standards.
Methods: A retrospective analysis of female patients, aged 16 years and above, who underwent any immediate implant-based breast reconstruction from January 2020 to September 2022 was conducted. Data was sourced from Nottingham University Hospitals' NHS Trust electronic medical records, including patient demographics, operative details, histology results, complications, with a follow-up time of 12 months.
Results: 61 patients (mean age: 48.7 years old; mean BMI at surgery: 26.5) underwent mastectomy with immediate implant-based breast reconstruction with 59% being expander and the majority being pre-pec (91.8%). 91.8% were never-smoker and 96.7% were non-diabetic. The indications for surgery were malignancy (29.5%), risk-reducing (62.2%), or both (6.5%). Of these patients, the rate of 3-month readmission, reoperation, and implant loss was 18.0%, 13.1%, and 8.2% respectively while 4.9% of patients experienced reoperation and implant loss within 12 months post-surgery. The rate of seroma, infection, dehiscence, and implant leakage at 12 months was 11.5%, 6.6%, 3.3%, and 1.6% respectively.
Conclusion: The complication rate in our audit was similar to the iBRA study with a lower reoperation rate (13.1% vs 18%) while still being higher than National Quality Standards (<5%). Further studies are necessary to optimize the clinical care for immediate implant-based breast reconstruction.

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TEN YEAR TREND ANALYSIS OF BREAST CANCER, ONCOPLASTIC AND RECONSTRUCTIVE BREAST SURGERY 2010 – 2020

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Introduction: Breast surgery has evolved to use oncoplastic techniques, as well as oncological principles, to preserve cosmetic outcome. The aim of this study was to map and plot the annual trends in types of surgical and reconstructive techniques used for breast cancer surgical management.
Methods: The study searched and manually verified ORMIS operation data from Manchester University Foundation Trust (2010-2020). Modified Mann-Kendall test with Sen's Slope was used for trend analysis, negative and positive Z values indicated downward and upwards trends respectively.
Results: Of 18323 screened operations, 7019 were breast cancer resections. Breast cancer cases increased 43% from 565 (2010) to 760 (2019, $p<0.01$). There was no significant change in the breast conserving surgery (BCS) rate over this period, but the type of operation has changed. Simple wide local excision remains the most common BCS procedure (98.7% 2010, 89% 2019), yet its rates have declined due to an increase in therapeutic mammoplasties (1.3% 2010, 8.1% 2019, $p<0.05$), and perforator flap procedures (0% 2010, 2.8% 2019, $p<0.05$). The immediate reconstruction rate increased from 29% to 33% ($p<0.05$), with an increase in implant and free flap reconstruction, alongside a reduction in latissimus dorsi reconstruction. In 2010, 84% of the implant reconstructions were performed in two stages, by 2019, 84% were single stage, with a higher proportion of nipple sparing mastectomies (0%, 2010 to 18%, 2019, $p<0.01$)).
Conclusions: This dataset demonstrates the changing landscape of breast oncoplastic surgery over a ten-year period, likely reflecting the changing techniques, training and attitudes to reconstructive surgery.

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REAL WORLD EXPERIENCE OF NHS BREAST SCREENING MULTIDISCIPLINARY GUIDELINE FOR THE DIAGNOSIS AND MANAGEMENT OF B3 LESIONS

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Background: NHS Breast screening guideline 2018 recommended thorough sampling by Vacuum Assisted Excision (VAE) as an alternative to diagnostic excision biopsy for most B3 lesions to exclude the presence of co-existing carcinoma. By following this guideline, the present study aims to evaluate the efficacy of VAE over excision biopsy.
Method: Data were collected prospectively for all screen-detected B3 lesions diagnosed by first-line needle core biopsy between January 2018 and December 2021 at Humberside Breast Screening service. Types of B3 lesions, atypia, MDT recommendation, management pathway, upgrade to cancer and B3 follow-up data were analysed.
Result: In total, 76 B3 lesions (21 with atypia and 55 without atypia) were included. Of them, MDT recommended excision biopsy for 20 patients and VAE for 56 patients. 7/76 (9.2%) were upgraded to malignant diagnosis (2 invasive and 5 non-invasive). All malignant upgrades were diagnosed by VAE (7/56), and none after open biopsy (0/20), $p=0.04$. B3 lesions with atypia had a significantly higher rate of associated malignancy (5/21, 23.8%) compared to no atypia (2/55, 3.6%), $p=0.003$. After thorough sampling by VAE of all the patients of B3 with atypia, only 3 patients proceeded to diagnostic excision biopsy, 5 required therapeutic surgery, 11 proceeded to B3 follow-up pathway and 2 cases downgraded to B2 lesions. One malignancy (DCIS) was detected in the B3 follow-up cohort after 36 months.
Conclusion: All malignant upgrade were diagnosed by VAE and at least 13 patients were saved from surgery who would have had excision biopsy due to presence of atypia.

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A PROBE DELIVERING HIGH WAVENUMBER RAMAN SPECTROSCOPY DIAGNOSTICS FOR INTRAOPERATIVE MARGIN ANALYSIS

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Introduction: Reducing re-excision rate for positive margins in Breast Conserving Surgery is a research priority. High Wavenumber Raman Spectroscopy (HWNRS) is a form of vibrational spectroscopy that is highly sensitive to biochemical tissue changes. We developed and present a novel HWNRS probe for clinical use to differentiate tumour and non-tumour areas for Intraoperative Margin Analysis (IMA).
Methods: Female patients undergoing simple mastectomy for palpable breast cancer were included (ethical approval-REC 18/NW/0366). HWNRS spectra were obtained from tumour and non-tumour areas in fresh tissue which underwent histopathological analysis, spectral matching and analysis of OH stretch (Water) to whole spectrum ratio (Water/Total Area Ratio W/TAR) with t-test (significance level $p<0.05$). HWNRS measurements were obtained within the theatre suite using a handheld probe with 785 nm laser excitation, and a spectrometer and InGaAs camera.
Results: 1620 spectra were obtained from 30 specimens ($n=30$ patients). Chemometric analysis demonstrated that tumour had a high water (OH stretch 3000–3700 cm-1 Raman shift), high protein (CH2 2935 cm-1) environment and non-tumour tissue a low water, high lipid (CH3 stretch-2895 cm-1) environment. Histologically matched spectra ($n=202$) showed significant difference between mean W/TAR between tumour (0.56;SD 0.2) and non-tumour (0.21;SD 0.16); $P<0.001$. Line measurements through the transition from tumour to non-tumour region (replicating 'close' margins) demonstrated evolving spectral differences.

Conclusion: This study demonstrates our handheld HWNRS probe can differentiate tumour from non-tumour breast tissue and associated changes of 'close' margins in a clinical environment. Machine learning techniques will be applied to determine diagnostic ability and progress towards precise Intraoperative Margin Analysis.

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COMPLICATIONS AND ONCOLOGICAL SAFETY OF ROBOTIC VS. OPEN NIPPLE SPARRING MASTECTOMY-META ANALYSIS

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Background: Breast cancer is the commonest cancer worldwide with remarkable advances in diagnosis, early detection, systemic treatments, and surgical techniques. Robotic nipple-sparing mastectomy (RNSM) has been trialled, however complication rates, oncological safety and operative variables of this approach remain obscure.
Materials and methods: A systematic search of the literature was conducted from conception till September 2022. Cohort studies and randomized control trials examining complications and operative variables comparing RNSM to open NSM were included. The primary outcome was comparing Grade 3 complications while the secondary outcomes included operative variables.
Results: Seven studies of overall fair quality, involving 1014 patients were included in the systematic review and meta-analysis. Overall, grade 3 complications (re-operation, Skin necrosis, Seroma and Haematoma) were reduced in RNSM but not reaching statistical significance Odds Ratio 0.60 [0.35, 1.05]. There was no difference for wound dehiscence 1.08[0.52, 2.25], however, nipple necrosis was significantly less in RNSM 0.70[0.40, 1.23]. Whilst not statistically significant, post-operative infections OR 1.90[0.87, 4.19, positive margin OR. 1.42[0.45, 4.47] and implant loss OR 1.32[0.55, 3.17] appeared to be increased in the robotic group. Local recurrence events were significantly increased in the robotic group, OR 0.24[0.06, 0.94]. Operative time was significantly increased in RNSM, MD(RE) 58.81 [28.19, 89.44], blood loss was significantly reduced MD(RE) -55.40[-67.89, -42.90] whilst no difference was noted in hospitalisation duration MD(RE) 1.05[0.86, 1.24].
Conclusion: Whilst still in its infancy robotic breast surgery may present a viable option in breast surgery. Nonetheless the oncological safety profile of this approach requires robust assessment.

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HIDDEN SCAR ONCOPLASTIC BREAST SURGERY: TECHNIQUES, VASCULAR ANATOMY AND PATIENT REPORTED OUTCOMES

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Introduction: Advances in breast cancer management have increased the cosmetic expectations following breast cancer surgery. Patient selection for operative procedures is dependent on multiple factors including patient choice; tumour characteristics and location; size, shape, and quality of breast tissue; age and general health (smoking history and obesity; previous surgeries and/or radiotherapy.)
Methods: This is a single centre experience of anterior and lateral intercostal artery perforator (AICAP) and (LICAP) flaps (with hidden scar placement). Details of operative technique and data on surgical and patient outcomes were collected retrospectively. In a separate study, detailed preoperative handheld Doppler assessment was performed in patients undergoing different breast procedures to identify LICAP in 37 breasts. Inframammary fold perforators (AICAP, MICAP) identified in 20 Breasts.
Results: We have undertaken 67 LICAP, AICAP flap reconstruction over the last two years. Mean age of 62 and an average invasive tumour size of 27.3 mm. 5 out of 67 patients (7.4%) required re-excision of margins. PROMs reported 98% excellence in satisfaction including cosmetic outcomes, symmetry, and hidden scar placement. 98% of the patients reported excellent psychological and physical wellbeing postoperative recovery. Doppler study has confirmed a consistent pattern of distribution of CWP for both LICAP and AICAP flaps.
Conclusions: Our early experience demonstrates that in carefully selected patients, it is possible to achieve lower re-excision rates, improved surgical and excellent patient related outcomes. The consistency of the Doppler detected blood supply makes it a feasible operation for training.

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SINGLE INSTITUTION EXPERIENCE OF MODIFIED LICAP OPERATION: SURGICAL AND PATIENT REPORTED OUTCOMES

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Background: The modified lateral intercostal artery perforator flap (LICAP) procedures as described by Meybodi et al in 2019 has the advantage of a hidden lazy S scar without any lateral extension to the back and removes the need for perioperative repositioning. Literature review of the conventional LICAP operation shows variations in practice, flap design and outcomes. Here we describe technical Modification, Surgical and PROMS assessment to optimise surgical and cosmetic outcomes.
Methods: This is a retrospective surgical outcomes and PROMS study on patients who underwent modified immediate LICAP flap partial breast reconstruction over the last two years. Data collected from electronic health records included postoperative pathology, complications, re-excision rates, adjuvant treatment and oncological outcomes. In addition, our technical modifications to the modified LICAP flap procedure. PROMS data was assessed utilizing the BREAST Q BCT module.
Results: 40 modified LICAP operations were undertaken over two years. The mean age was 62 years with average invasive tumour size of 27.3 mm. 5 patients (7.4%) required re-excision of margins. PROMS reported that 95% of patients have excellent rating for satisfaction, cosmetic outcome, symmetry, and hidden scar placement. 100% of patients would recommend similar surgery to a friend or relative. 98% of the patients reported excellent psychological and physical wellbeing postoperatively.
Conclusions: This study demonstrates encouraging results of the modified LICAP operation with excellent patient-reported outcomes and has the potential to provide superior outcomes to the conventional LICAP with reduced operative time and improved flap viability.

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NODAL POSITIVITY IN CLINICALLY NODE-NEGATIVE BREAST CANCER FOLLOWING NEOADJUVANT CHEMOTHERAPY

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Introduction: The necessity to perform a sentinel lymph node biopsy (SLNB) in patients with clinically node-negative breast cancer following neoadjuvant chemotherapy has been questioned. This study aimed to determine the rate of nodal positivity in these patients and to identify clinicopathological features associated with ypN+.
Methods: A retrospective multi-centre study was performed. Patients with cT1-3cN0 breast cancer who underwent SLNB following neoadjuvant chemotherapy between 2016 and 2021 were included. Negative nodal status was defined as the absence of suspicious nodes on axillary ultrasonography, or the absence of tumour cells on cytology in patients who had axillary nodal fine needle aspiration.

Results: 351 patients from five institutions were analysed. Overall, 46 (13%) had a positive SLNB. Nodal positivity was identified in 21 (29.2%) with HR+HER2- tumours, 12 (14%) with HR+HER2+ disease, 3 (6%) with HR-HER2+ tumours, and 10 (7%) with triple negative breast cancer (TNBC). Multivariable logistic regression analysis showed TNBC (OR 0.29 95% CI 0.13-0.68, p = 0.004) and a radiological complete response (rCR) in the breast (OR 0.15, 95% CI 0.05-0.50, p=0.002) were associated with a reduced likelihood of ypN+. Only 3% of patients who had a breast rCR were ypN+. Among those with a rCR, the rate of ypN+ was 2.2% in patients with TNBC and 4.4% in those with HER2-positive disease.
Conclusion: The rate of sentinel lymph node positivity in patients with HER2+ and TNBC who achieve a breast rCR is exceptionally low. Omission of post neoadjuvant SLNB should be considered in this cohort of patients.

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RESTORE C19: EXPERIENCES OF WOMEN NOT OFFERED IMMEDIATE BREAST RECONSTRUCTION DURING COVID-19

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Introduction: The offer of immediate breast reconstruction (IBR) was temporarily withdrawn for women requiring mastectomy during the COVID-19 pandemic to allow prioritisation of emergency care. The RESTORE C19 study aimed to use qualitative interviews to explore the experiences of these women and how support for them could be improved.
Methods: Qualitative interviews were undertaken with a purposive sample of women identified as not being offered IBR in the B-MaP-C study. Maximum sample variation was sought regarding patient age, decisions regarding subsequent reconstruction and geographical location. Data were transcribed in full and analysed thematically using the constant comparison technique of grounded theory. (Ethical approval: IRAS 302580, Wales REC 4 21/WA/0347).
Results: Work is ongoing but key themes identified include feelings of abandonment and lack of support; frustration at missing out on the range of reconstructive options and ongoing post traumatic symptoms for patients and their partners. Most women understood and accepted why extreme measures were taken, but nonetheless experienced significant fear and trauma at facing breast cancer treatment alone, without the support of loved ones, guilt at receiving treatment when others missed out on cancer screening and many now face lengthy waiting times to access delayed reconstruction.
Conclusions: The impact on women having breast cancer treatment during the COVID-19 pandemic was significant and effects are ongoing, especially for those still awaiting delayed reconstruction. This work explores the experiences of these women in detail so that they can be better supported and provides valuable learning regarding the delivery of future reconstructive services.

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A PROSPECTIVE COHORT ANALYSIS OF BREAST CANCER TREATMENT PATTERNS AND GUIDELINE IN MALAWI

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Background: In Sub-Saharan Africa (SSA), breast cancer treatment in concordance with resource stratified guidelines is increasingly recommended, but treatment receipt and outcomes are rarely reported. Our aim is to describe treatment patterns, response, and completion among Malawian women with breast cancer.
Methods: We utilized a prospective cohort of newly diagnosed breast cancer patients enrolled between December 2016 and October 2018 at Kamuzu Central Hospital. Presenting characteristics, treatment received including neoadjuvant (NAC), adjuvant and palliative chemotherapy and breast surgery, and outcomes were determined by chart abstraction. Overall survival (OS) was calculated using Kaplan Meier methods and log-rank test. Unadjusted and adjusted odds ratios ((a)OR) using logistic regression were calculated to determine factors associated with curative-intent treatment completion.
Results: 91 patients were included of whom 14% presented as stage II, 59% as stage III, and 26% as stage IV. Most patients (71%) were recommended to undergo curative treatment of which 72% received NAC, 22% upfront breast surgery and 6% never received treatment. Only 63% of eligible patients completed curative-intent treatment with incompletion associated with Stage III disease (OR 0.10 CI (0.01-0.89); p=0.040) HIV+ (OR 0.25 CI (0.06-0.99); p=0.049) and ER/PR-/HER2+ phenotype ((OR 0.07 CI (0.01-0.49); p=0.007); (aOR 0.12 CI (0.01-0.97); 0.047)). Completion of curative-intent treatment was associated with improved mOS (35.9 vs. 19.7 months; p=0.00)
Conclusions: This study demonstrates that while curative treatment is often recommended, treatment completion rates are suboptimal and associated with poor survival. Outputs from this study can inform targeted patient and system-related interventions to improve treatment completion and outcomes.

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BREAST PAIN: TO TRIAGE OR NOT TO TRIAGE?

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Introduction: Breast cancer 2-week wait (2WW) clinics facilitate timely identification and treatment of breast cancer, but clinic target times are increasingly strained. Inappropriate referrals, specifically for pre-menopausal patients with mastalgia alone, add to the pressure on secondary care. This study aims to analyse the utilisation of the East Sussex Healthcare NHS Trust (ESHT) 2WW pathway by GPs for patients with mastalgia alone and seeks to make recommendations to primary care.
Methods: Data was collected retrospectively using hospital electronic health records for a 6-month period and compared against standards from NICE criteria for 2ww referral - no patients under 50 years should be referred for mastalgia alone, and GIRFT guidelines - all patients should receive advice about NSAIDs and bras before 2WW referral.
Results: The ESHT breast 2WW clinic received 2603 referrals between 1/1/2022 and 30/6/2022, 117 referrals for women with mastalgia alone. The cancer detection rate in the mastalgia group was 0% (0/40) in the under 50s, and 1.3% (1/77) in those aged 50 and above, overall cancer detection rate 0.9% (1/117). GPs provided varied symptom management advice to 35.0% of the 117, including advice about analgesia (29.1%), NSAIDs specifically (10.3%), evening primrose oil (4.3%), and bras (1.7%).
Conclusions: This study identified inappropriate use of the ESHT breast 2WW pathway for women under 50 with mastalgia alone and confirmed mastalgia alone has poor predictive value for breast cancer. 2WW target burdens on secondary care could be improved by implementing triage into nurse-led breast pain clinics and by educating GPs.

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HOW EFFECTIVE IS NURSE-LED ' DEDICATED BREAST PAIN CLINIC'?

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Introduction: Patients with breast pain are usually seen in 'one-stop breast clinic' (OSBC) with breast imaging. In the absence of associated red flag features the incidence of breast cancer is extremely low. With increase in referrals the OSBC capacity is over-stretched. We developed an advanced nurse-led 'dedicated breast pain clinic' in September 2021 without routine breast imaging. After meticulous history and examination, patients

obtained detailed counselling and advice regarding breast pain management. If any abnormality was noted, then appointment was given for OSBC. The aim of the study was to assess the effectiveness of this new service.
Methods: This was a prospective study and included all consecutive patients seen in 'breast pain clinic' from September 2021 until September 2022. Feedback was sought from all patients.
Results: Altogether 429 patients were seen. The mean age was 48.7 years (range:18–86). 40% had previous 2 or more consultation with their GP. 87.6%(n=376) patients required no breast imaging. Only 12.4% (n=53) patients needed referral to OSBC and 2 patients (0.46%) were diagnosed with breast cancer. 93% (n=403) patients completed the feedback questionnaire. 98% (397/403) patients felt reassured with their consultation and 99.2% (400/403) patients were extremely likely/likely to recommend this service to family and friends.
Conclusion: Most patients were managed in breast pain clinic and only 12% needed referral to OSBC. 98% felt reassured with their consultation. This helped to ease pressure on the OSBC but importantly achieved high patient satisfaction. Our study shows that advanced nurse-led 'dedicated breast pain clinic' can be very effective.

P149

THE IMPLEMENTATION OF GENETIC TESTING AT EAST LANCASHIRE HOSPITAL TRUST; THE ROLE OF THE BCN

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Introduction: We describe how breast care nurses (BCN) are well placed to manage the pathway for breast cancer patients undergoing genetic testing to ensure patients and their families are fully informed and supported.
Method: Breast cancer patients eligible for genetic testing at ELHT are referred to the BCN who ensures they are eligible. The BCN discusses with eligible patients the potential implications of the test result for themselves and their wider family and will consent them and request the test. The BCN has oversight of all patients in the unit who have undergone testing and ensures results are obtained and discussed with patients in a timely supportive manner to aid in their decision making.
Results: Traditionally, genetic testing discussions undertaken by clinicians tend to focus more on the impact the result would have on treatment options, specifically surgery. The BCN, being trained in genomics, takes a more holistic approach to ensure patients are fully informed of all the implications for their future and for their family.
Conclusion: Our findings support a suitably trained BCN being well placed to lead the service for supporting patients though the process of genetic testing. The next stage is for it to become standard practice for all BCNs to complement their existing role and relationship with patients. Training will be rolled out in the next 12 months with a view to it being shared across the ICS.

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OBJECTIVE COMPARISON OF POST-OPERATIVE ACTIVITY AFTER AXILLARY SURGERIES

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Introduction: Axillary de-escalation is driven by the aim to limit arm/shoulder injury. The evidence for axillary operations is subjective and based on patient questionnaires. Wearable Activity Monitors (WAM) can capture objective physical activity (PA) levels postoperatively. We used WAMs to assess physical recovery between axillary lymph node dissection (ALND) and sentinel lymph node biopsy (SLNB).
Methods: A single centre, prospective observational study was conducted involving 53 patients. Consecutive patients undergoing breast/axillary surgery were identified from theatre lists. Eligible consented patients wore WAMs (AX3, Axivity, UK - triaxial accelerometer) on both wrists at least one day pre- and up to two weeks post-operatively.
Results: Greater PA level was observed in the control arm compared to the surgically treated side in both SLNB and ALND groups in week 1 (Median: SLNB= 66.9% vs 56.1%, p=0.006; Median: ALND= 69.4% vs 57.7%, p<0.001) and 2 (Median: SLNB= 79% vs 71.8%, p=0.113; Median: ALND= 78.2% vs 66.4%, p<0.001) respectively. PA level was significantly lower in the latter than the former in week 2 (Median: 90% vs 70.5%, p=0.023) when comparing surgically treated side only of 'Simple Mastectomy (Mx) and SLNB' versus 'Mx and ALND'.
Conclusion: ALND significantly decreases PA level compared to SLNB. The findings show that SLNB affects PA levels even 2 weeks after surgery. Monitoring recovery following breast surgery gives patients and doctors more information about treatment outcomes and may help them choose the optimal option, especially when oncological outcomes are uncertain. This information could potentially improve results by identifying vulnerable patients who would benefit from early exercise intervention.

P151

ARE WOMEN WHO OPT FOR MASTECTOMY DESPITE BEING SUITABLE FOR BCS BEING OFFERED RECONSTRUCTION?

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Introduction: NICE advocates that immediate reconstruction (IR) be offered to those having mastectomy (Mx) unless contraindicated. When offered choice between Mx and breast conserving surgery (BCS) or margin re-excision (Rex) most women opt for BCS. The offer of IR may be overlooked in patients choosing Mx. Current Unit's compliance with NICE guidelines was audited.
Methods: Retrospective review of women who decided against BCS (n=50/499; 10%) or Rex (n=15/78; 19%) in 2021 was performed. Notes were reviewed for evidence of whether IR was offered/not offered with clear rationale. Data collected included patient and cancer-specific factors. For those not offered IR data was analysed to assess whether decision was justified by these factors. T-test was performed to assess for significant differences between women offered IR versus not offered without clear justification.
Results: 18 of 65 (28%) were offered IR. 3 (5%) were not offered IR with documented reason. 44 (67%) were not offered IR with no documented reason; in this group there was no clear justification based on either patient or cancer specific factors in 22 (33.5%). In 22 (33.5%) clear justification to not offer IR included high BMI, smoking, comorbidity and need for radiotherapy. Women offered IR versus those not offered without clear justification were significantly younger (p=0.02). There was no difference in BMI (p>0.05).
Conclusions: One-third of eligible patients were not offered IR, showing a possible age bias. We are not meeting standards set out by NICE in the provision of IR to patients choosing between Mx and BCS/Rex.

P152

FEASIBILITY OF UNDERTAKING COMPREHENSIVE GERIATRIC ASSESSMENT FOR OLDER WOMEN WITH BREAST CANCER

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Background: Cancer survival has been reported poorly in older population in UK. Disparities have been noted in care of elderly cancer population. In elderly it's difficult to standardize the treatment due to prevalence of comorbidities. Comprehensive Geriatric Assessment (CGA) is a well-recognized tool for evaluation of global health status, cognition, comorbidities, medications, social health and support. The aim of this study was to test the feasibility of CGA in older females with early breast cancer.
Methods: Single centre prospective study was conducted evaluating cancer specific CGA tool in women >70 yrs with primary early breast cancer who could understand English. CGA was conducted within 6 weeks post diagnosis. Total CGA scores included time taken to complete questionnaire by patient & the researcher, feedback by patient, demographics,

living composition, patient and researcher rated score of performance, timed Up and Go (TUG), number of falls in last six-month, daily activity of living, social activity and support.
Results: 40 completed CGA were analysed. Mean time to complete whole CGA was 17.5 min (range 11-45). Patient reported CGA completed in 15 min (range 9-40 min) and health member completed CGA took 2.5 min (Range 2-5 min). 82% were completed without any assistance, 17% required assistance, 90% had no difficulty, 93% found just the right length. Mean age was 74.5, performance status scores 70-100%, mean TUG=16.1seconds (range 8-50).
Conclusion: Positive correlation found between Age, CGA and TUG. CGA is feasible, easy to administer, requires minimal resource allocation and could be adjusted in busy surgical practice.

P153

AXILLARY NODAL RESPONSE IN BREAST CANCER FOLLOWING NEOADJUVANT CHEMOTHERAPY: DO SUBTYPES MATTER?

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Introduction: Neoadjuvant chemotherapy (NACT) is increasingly used to downstage locally advanced breast cancers (BC). Complete breast pathological response rates documented according to cancer subtype predominate the literature, with less known regarding the axillary nodal response (ANR). The aim of our study was to evaluate the ANR rate in patients that underwent NACT in our Trust.
Methods: Retrospective analysis of all electronic patient records undergoing NACT from 2017-2021 of all breast cancer subtypes followed by surgery. ANR was defined by complete, partial or no response on histology after surgery and further analysed in relation to receptor status (ER, PR and HER2).
Results: 200 patient records were included in the study, aged 25-87yrs (mean 50yrs). 206 specimens were reviewed (195 ductal, 11 lobular), the majority was grade 3(51%); 146 were unifocal and 60 multifocal. ANR was assessed in 120 patients who had histologically proven axillary metastases prior to NACT, of those 32% showed complete response (38), 32% partial response (39) and 36% no response (43). The most common subtype for complete ANR was ERnegative/HER2positive (15/38) followed by ERpositive/Her2positive (8/38) and triple negative BC (7/38). ERpositive/HER2-negative comprised 56% (24/43) of patients showing no ANR.
Conclusions: Our study has demonstrated 64% ANR rate in patients undergoing NACT. Most patients showing complete ANR had HER2 positive breast cancer. More studies are needed to evaluate if axillary treatment can be safely avoided in this cohort.

P154

SYSTEMATIC REVIEW OF CURRENT PRACTICES IN THE MANAGEMENT OF MULTIPLE PAPILLOMATOSIS

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Introduction: There is a variation of practise in the management of multiple papillomatosis (MPs). We conducted a systematic review to assess the management of MP based on best evidence present.
Methods: The systematic review was conducted following PRISMA guidelines. The search for the data was conducted 1st Sept-24th October 2022. The searched database were medline, embase, pubmed and google scholar. There were 16 studies that evaluated the management of MPs and were included in the review.
Results: There were 16 studies (573 patients) included in the review. The follow-up period ranged from 2 years to 20 years. The most common presentation was symptomatic lump and incidental finding on imaging. The upgrade rate to finding of atypia and DCIS or invasive cancer following surgical excision of the lesions was 14.5% (52/359) and 16.9% (80/471), respectively. The rate of subsequent DCIS or cancer in the follow up period was 5-10%. In most of the studies, the treatment was surgical excision of all the lesions. 432/573 patients (75.4%) underwent total excision of all the lesions either as mastectomy or breast conserving surgery.
Conclusion: MP mostly presents with breast lump. Most of the previous studies have treated it with surgical excision either as breast conserving surgery or mastectomy to include all the lesions due to high upgrade rate to DCIS and invasive cancer disease.

P155

MASTECTOMY OR BREAST CONSERVATION IN EARLY BREAST CANCER: FACTORS AFFECTING CHOICE IN NORTH PAKISTANRAZIA BANO, FIONA TSANG-WRIGHT. *BUCKINGHAMSHIRE HEALTHCARE NHS TRUST, AMERSHAM, UK*
Introduction: Breast conservation surgery with radiotherapy has proven breast cancer survival compared to mastectomy when adjusted for patient factors such as comorbidities and socioeconomic status. In this Pakistani tertiary institution, patients are inclined towards mastectomy. Understanding the factors which affect a patient's choice allows the support for a patient's decision-making process and appropriate service provision.
Methods: A retrospective evaluation of patients with T1/T2, N0/N1 disease at a single institution from June 2016 to June 2019. Patients with multicentric and locally advanced disease were excluded. Factors recorded included education level, family advice, radiation cost, fear of recurrence, fear of additional surgery, oncology preference, participation in patient groups, side-effects of radiation, and impact of counselling.
Results: 350 women of Pakistani descent were included (age range 28 - 78, median 41). Each patient received at least two appointments. Patients who were suitable for breast conservation yet chose mastectomy received additional counselling. The mastectomy rate was 45% (157 women).
Conclusion: Patients subjective preference and influencing factors are difficult to define and measure. The mastectomy rate is high despite informed decision-making; the impact of a fear of recurrence, aged over 45 and further surgery had the greatest influence in Pakistani women, as well as compliance for surveillance. Surprisingly, mastectomy was favoured in highly educated families (influenced by online information), and women in a relatively younger age group (45-60). Future work is needed to identify each patient's risk-threshold, understand the psychological factors and the treatment goals of each treatment, to support future service provision.

Factor	Effect on mastectomy choice
Risk of recurrence in same breast	90%
Age over 45 years	80%
Positive margin and further surgery	35%
Influence from patient's family	15%
Oncologist advice	3%
Post-op surveillance	7%
Radiation changes post-surgery	No influence
Cost of radiation therapy	No influence

P156

COMPARING LOCAL & REGIONAL ANAESTHESIA METHODS AND POST-OPERATIVE PAIN SCORES IN BREAST SURGERY

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Introduction: Regional anaesthesia with pectoral nerve block provides consistent analgesia following breast surgery. Here we assess methods of local and regional anaesthesia and post-operative pain in breast surgery patients.
Methods: Prospective study of all breast surgery patients identified using theatre schedules, over 7 week period, 10.10.22 - 25.11.22. The method of

infiltrative anaesthetic, agent and dose with numerical pain score post-operatively where available, was collected using electronic patient records. Analgesia requirements in theatre recovery, ward areas and at discharge was collated using prescription software and discharge letters.
Results: 63 patients were identified with median age of 62.45 years (range 27-90 years) and 96.83% (n=61) being female. 49/63 (78%) patients had breast conservation surgery. 12/63 (19%) had simple mastectomy. In the axilla 50/54 (93%) patients had axillary conservation surgery with sentinel node biopsy or targeted axillary dissection. Most patients had local anaesthetic (LA) infiltration by surgeon (46/63, 73%). 23 (37%) had a pectoral block, 9 by surgeon and 14 by anaesthetist. Anaesthetist pectoral block group had the lowest pain scores, median score 0 at all time intervals. Pectoral block and LA by surgeon cohorts also both had median pain scores of 0 until 6 hours post operatively, then scored higher. All patients had minimal post-theatre recovery analgesia requirements, median 0 doses.
Conclusions: Post-operative pain in breast surgical patients is well controlled by both local and regional anaesthesia. Anaesthetist delivered pectoral block provides the longest analgesia in our study. In all patients however requirement for post-recovery analgesia is small.

P157

COMPARISON OF ENDOPREDICT WITH ONCOTYPE DX RECURRENCE SCORE (RS) TO GUIDE ADJUVANT SYSTEMIC TREATMENT

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Introduction: EndoPredict is a NICE approved second generation gene expression assay which uses 12 genes to calculate the EndoPredict (EP) score. The EP score combined with tumour size and nodal status calculates the EPclin score. It predicts individual chemotherapy and extended adjuvant endocrine therapy benefit. A threshold score of 3.3 stratifies patients into low (<10%) and high-risk (>10%) of early and late distant recurrence. We investigated Endopredict as prognostic and predictive tool for 15 cases of HR positive early breast cancer.
Methods: The study was designed as a service improvement initiative at Nottingham University Hospitals NHS Trust. It was registered with the local clinical audit and effectiveness team. Paraffin embedded specimens from these patients were simultaneously submitted for Endopredict and oncotype DX tests. As Endopredict is locally processed we anticipated quicker turn about time (TAT) for results.
Results: The median TAT for Endopredict results was 1 day. EPclin classified 5 patients as low risk and 10 as high risk. In comparison, oncotype RS defined 6 patients as low risk (RS<18), 5 as intermediate risk (RS<25), and 4 as high risk (RS≥25). Based on RS 6 patients with low or intermediate risk were classified as high risk according to EPclin score. Presence of nodal metastasis, higher tumour grade and size were observed in cases with discordant results.
Conclusion: The use of EPclin in MDTs may change adjuvant chemotherapy decisions. A decision impact study is planned to investigate this further.

P158

YEAR ONE OF THE IRISH 'MAMMOGRAM ONLY PATHWAY': A PROSPECTIVE SINGLE CENTRE EVALUATION

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Referral numbers from symptomatic breast clinics in Ireland continue to increase. In April 2021, a new symptomatic referral guideline was launched. This included a 'Mammogram Only' stream that enabled women over age 35 with mastalgia and a normal clinical assessment in primary care to proceed to mammography, obviating the need for a clinic visit. This study evaluates the outcomes of the first year of implementation of the 'Mammogram Only' pathway. All women, aged over 35, referred to St Vincent's University Hospital and triaged to the new 'Mammogram Only' pathway from 01/04/2021 to 31/03/2022 were identified for audit. Outcomes assessed were rate of cancer diagnosis, rate of recall for further imaging assessment and rate of biopsy. The comparative cohort were non-urgent referrals (>35yrs) triaged to our 'Image 1st Pathway' (mammography followed by subsequent clinic visit). A total of 1091 women (median age 52) were assigned to the 'Mammogram Only' pathway and attended for mammography. 7% of patients were recalled for further evaluation with 3% of the overall cohort undergoing a biopsy. Just under 2% of patients (1.6%) were diagnosed with breast cancer. Of the 2079 patients during the same time frame who were evaluated through the 'Image 1st Pathway' the corresponding figures were: recall rate 12%, biopsy 6%, cancer 2.6%. This initial experience of the 'Mammogram Only' pathway confirms the ability of primary care to stratify patients with normal clinical assessment and mastalgia only for mammography with low rates of recall and biopsy and a cancer detection rate of <2%.

P159

YOUNG WOMEN WITH BREAST CANCER: COMPARISON OF TUMOUR CHARACTERISTICS AND TREATMENT

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Background: Breast cancer in women under 40 is rare, accounting for 5% of all cancers. However, 5-year survival is lower than those in older cohorts, and it is associated with more aggressive cancer subtypes and higher grade.
Methods: This was a retrospective cohort study of patients diagnosed with breast cancer aged under 40 from 1 January 2010 to 31 December 2020. Patient demographics were analysed and subgroup analysis compared those aged 35 and under versus 36-39.
Results: There were 144 patients meeting our inclusion criteria (65 aged 35 and under; 79 aged 36-39). 56 (39%) patients had stage 0 or 1 disease, 58 (40%) Stage 2, 22(15%) Stage 3 and 8 (6%) Stage 4. The majority had invasive ductal compared to lobular carcinoma (85% vs 5%). There were more G3 cancers (79, 55%) compared to G1 (6, 4%) and G2 (52, 36%). 27 (19%) were ER-HER2-, 38 (26%) HER2+ (25 ER+HER2+; 13 ER-HER2+), and 77 (53%) ER+HER2-.
Gene mutation was present in 8 (6%) patients, with most in the 35 and under group (7). 27 (19%) had strong family history of breast cancer.
32 (22%) patients had recurrence (3 local, 29 distant, 8 local and distant). There were 24 (17%) deaths, 23 of which were due to progressive disease. There was no statistical difference between the two age groups, although the cohort as a whole did support the hypothesis and previous studies that younger women do present with more aggressive and higher-grade cancer compared to older women.
Conclusions: Our cohort presented with more aggressive receptor subtypes, higher grade and later stage compared to older women, and consequently underwent more intensive treatment. It is therefore important to identify those qualifying for high-risk screening and have a high index of suspicion for appropriate imaging and early diagnosis.

P160

FIVE YEAR EXPERIENCE OF REGIONAL ONCOPLASTIC MULTIDISCIPLINARY TEAM MEETINGS

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Introduction: There has been a growing move nationally to implement Oncoplastic breast MDT (OP MDT) particularly since publication of the ABS/BAPRAS Oncoplastic guidelines. It allows for sharing of expertise, standardisation of care, transparency of practice and excellent training opportunities. We report our 5-year experience.
Methods: Local OPMDT within Royal Devon and Exeter Hospital has existed since 2012 and for the last 5 years has been regional under the

leadership of local TIG fellows incorporating six trusts. A continuous database of referrals and outcomes is managed by the MDT lead and data was collected on; total number of cases referred, case type (Immediate, delayed, risk reducing, revisional/benign), consultant referral (subdivided between <5 yrs >5 yrs since appointment) and unit referral rate.
Results: 253 patients from within the geographical region were presented and discussed at OPMDT between 2018 and 2022, ranging in complexity from simple scar revision to delayed DIEP whole breast reconstruction. Within this cohort, 138 patients underwent immediate breast reconstruction, 21 had risk reducing surgery and 39 had delayed whole breast reconstruction. The remaining 56 had surgery for revisional or benign reasons. All patients underwent surgery guided by the OPMDT outcome.
Conclusions: By utilizing networks of experienced surgeons within our Regional OPMDT, shared decision making and streamlined process of referral for free flap reconstruction can be supported in smaller breast units who do not have plastics on site. It is also an excellent learning opportunity for trainees to understand the decision making behind complex oncoplastic surgical techniques.

P161

BREAST CANCER UNDER AGE 40 OVER LAST DECADE: A RETROSPECTIVE ANALYSIS

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Introduction: Breast cancer (BC) under age 40 is a complex disease and has additionally fertility-related factors and genetic mutations to be taken in consideration. The aim of this study was to analyse over time rate of breast cancer, tumour characteristics, recurrence, genetic testing in women under age 40.
Methods: Retrospective cohort study of breast cancer in women under age 40 at our institution diagnosed from January 2010 to September 2022 was conducted. Patient demographics, tumour characteristics and treatment outcomes were collected. Descriptive statistics was used.
Results: 279 women under age 40 had a new diagnosis of breast cancer i.e., 3.7% of all cancers. 81% of these are between 35-40 years. Higher proportion of women were diagnosed with invasive carcinoma (90.6%) compared to in-situ cancer. There is trend toward increasing number of cancers since 2016. Symptoms at first presentation, most common was lump followed by pain with/without nodularity. 8.3% tested based on criteria carried genetic mutation. Most common histology is ductal cancer (93%). 48.4% were Luminal A followed by TNBC 23%. Most are grade 3 (75%). Mortality rate was 1.4%, recurrence rate (local/distant) was 9.6%.
Conclusions: While no statistically significant increase in overall rate of breast cancer was noted, a general trend is toward increase in younger women with breast cancer but interestingly majority of them are over 35 years, where routine mammography may be offered. With new guidelines, all these patients are eligible for genetic testing; it will be interesting to observe the genetic results trend in future.

P162

TIGR MATRIX-ASSISTED IMPLANT-BASED RECONSTRUCTION: A SERVICE EVALUATION PROJECT

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Introduction: Despite significant advancements in treatment, up to 40% of women diagnosed with breast cancer require a mastectomy. Immediate breast reconstruction is offered routinely to improve quality of life, and implant-based reconstruction is the most performed procedure worldwide. With the advent of biological and synthetic meshes, the trend has been towards direct-to-implant-based reconstruction. We undertook a service evaluation project to offer suitable patients a less expensive, non-animal source option and studied their surgical outcomes.
Methods: We collected prospective data on patients who underwent prepectoral immediate breast reconstruction between 2017 and 2020 using the TIGR matrix for therapeutic or prophylactic indications. Our dataset included patient demographics, indications for surgery, complications, and a questionnaire-based patient-reported outcome.
Results: Some 113 TIGR meshes were used on 93 patients who underwent skin or nipple-sparing mastectomy and reconstruction with TIGR mesh for breast cancer or risk reduction. The mean age was 52 years, and 20 patients (21.5%) had a bilateral procedure. On a 12-month follow-up, the infection, partial skin necrosis, and capsular contracture were recorded in 7.9%, 2.6%, and 1.7%, respectively. In addition, the implant loss rate was 5.3%, and the implant was changed in 2.6% of cases. An interim analysis of the patient-reported outcome survey shows similar satisfaction as reported in the National Mastectomy and Breast Reconstruction Audit 2010.
Conclusion: TIGR mesh is a less expensive, safe, and viable alternative to the acellular dermal matrix. However, we need more robust evidence to explore this option for patients who want to avoid biological meshes.

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SENTINEL LYMPH NODE BIOPSY IN OLDER PATIENTS WITH BREAST CANCER: WHICH SUBSET CAN BE OMITTED?

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Breast cancer surgical treatment includes axillary staging using sentinel lymph node biopsy (SLNB) for those with clinically and radiological negative axillae, which is associated with high morbidity in elderly patients. The Society of Surgical Oncology Choosing Wisely Initiative hypothesize that routine SLNB can be omitted in patients $\geq$70 years old with early-stage receptor positive HER2- invasive breast cancers. The aim of this study is to identify a subset of patients where SNLB could be omitted without impacting overall survival or recurrence rates. This was 5-year retrospective cohort study of $\geq$70 years old patients with early breast cancer undergoing SLNB in our institute. Inclusion criteria were primary breast cancer, Grade1-2 on initial biopsy, T1-T2, ER+, HER2-. Exclusion criteria were patients with DCIS-only or G3 on initial core biopsy, multifocal disease, metastatic axillary lymph nodes and distant metastases on presenting. 279 patients met our inclusion criteria: 19% had positive LN, of these, 81% had G2-3 cancer on final histology. There was a higher proportion of positive compared to negative SLNB that had invasive lobular cancers (20% vs 8%); T2 tumours (52% vs 31%); local and distant recurrence (13% vs 6%) and breast cancer-related deaths (9% vs 4%). Positive SLNB was found in 1 with Stage 1A disease; 1 with Stage 1B; 23 with Stage 2A; 27 with Stage 2B and 2 with Stage 3A. Those with negative SLNB, the majority were Stage 1A or 1B (68%). Thus, SNLB could be omitted in G1/2 invasive ductal carcinoma that are T1 and Stage 1A.

P164

AUDIT TO ASSESS REFERRAL PATTERNS AND OUTCOMES FOR PATIENTS PRESENTING WITH BREAST PAIN IN THE COMMUNITY

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Introduction: Patients seeking advice about breast pain in the community may have varied outcomes. As part of planning for a Community Breast Pain service (CBPs), an audit was designed to assess one-stop clinic referral patterns and outcomes for women seeking advice about breast pain only at the GP practice.
Methods: Audit was registered with Quality, Safety and Compliance Department at the Trust. Over a 3-month period, patients who consulted their GP for Breast or Axillary pain only and then referred to one-stop clinic were included. GP referral criteria, patient demographics and triple

assessment outcomes were noted.
Results: 110 (16%) of the 693 patients seen by 6 clinicians over 3 months went to their GP with breast/axillary pain only. Median age was 50 years (range 22-82).

On clinical breast examination, 90 (82%) had normal and 20 (18%) had benign findings. 15 (14%) had musculoskeletal pain. 79 (72%) patients underwent imaging; 3 (3%) found to have cysts. No other abnormality seen on imaging. 31 (28%) patients had no imaging.

Table 1. Patients' primary complaint to GP

Symptom	n(%)
Unilateral Breast Pain	94(85%)
Bilateral Breast Pain	5(5%)
Axillary Pain	4(4%)
Chest Wall Pain	7(6%)
Total	110

Table 2. Criteria on GP referral form

Symptom	n(%)
Breast pain only	10(9%)
Lump/Lumpiness	89(81%)
Axillary Lump	4(4%)
Others	7(6%)

Conclusions: Patients presenting with breast pain as their only symptom were not found to have significant pathology. CBPs may be able to provide a safe alternative for these patients. Education and collaboration with primary care professionals may allow more appropriate referrals to CBPs and one-stop clinic.

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CONTRALATERAL SYMMETRISING MASTECTOMY: A SYSTEMATIC REVIEW OF CLINICAL AND PATIENT REPORTED OUTCOMES

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Introduction: Breast reconstruction is offered in the UK to restore symmetry after unilateral mastectomy (UM) for cancer but not all women want (or are suitable for) reconstruction. Contralateral symmetrising mastectomy (CSM) to provide 'flat symmetry' is an excellent alternative, but no NICE guidelines to support the offer of the procedure exist. Furthermore, symmetrising mastectomy is often mislabelled as 'prophylactic' mastectomy. As this is not recommended for women at population breast cancer risk surgeons are often reluctant to offer the procedure.
Methods: A systematic search in MEDLINE, PubMed, CINAHL and PsycINFO identified studies published in English 01/01/2000 - 30/08/2022 evaluating clinical and/or patient-reported outcomes of women receiving CSM after/with UM for breast cancer. Analysis included simple summary statistics for quantitative data and content analysis for qualitative data.
Results: After de-duplication, 1872 abstracts remained, 89 full-text articles were reviewed and 15 studies (13 quantitative, 1 qualitative and 1 study with both components) reporting outcomes in 1,954 women undergoing CSM were included in the review. Surgical complication rates were the same or higher in bilateral mastectomy versus UM, but far lower than those following reconstruction. A theme of 'flat denial' amongst surgeons emerged but patients universally reported high levels of satisfaction with their decision.
Conclusions: High-quality evidence of the clinical and patient-reported outcomes of CSM is needed to inform evidence-based surgical decision making, but such data are currently lacking. CSM is safer than reconstruction and associated with high patient satisfaction making it an excellent option for women who choose to go flat.