RT may not be a cost effective treatment in this population unless it results in a recurrence rate at least 5% lower in absolute terms than those treated without RT.

O-20 Surgical opinion of cosmetic outcomes following breast conserving surgery for primary breast cancer

N. Hopper*, N. Jones, R.J. Williams, E. Vaughan-Williams. *Royal Glamorgan Hospital, Llantrisant, UK*

Several studies have shown that breast conserving surgery [BCS] (wide local excision followed by radiotherapy) and mastectomy results in equivalent survival rates. Thus BCS has potential advantages of better cosmesis and body image, with subsequent improvement in quality of life. Results however often fall below expectations.
The aims of this study were analyse the cosmetic outcomes following BCS for primary breast cancer, comparing the opinions of Consultant Surgeons (CS) and Non-surgical practitioners (NSP).
Post-operative photographs (3 different views, standard conditions and positions) of 50 patients (median age 61, range 42–84) with primary breast cancer, who had been treated by wide local excision and radiotherapy were evaluated on a standardised 4 point grading system by 4 consultant breast surgeons, 1 plastic surgeon, 1 breast physician, 3 nurses and 1 lay person. The assessors also gave an overall score out of 10.

	Surgeon	Non-surgeon	P value
Breast shape rated as "Excellent"	44%	28%	<0.001
Scarring rated as "Excellent"	27%	23%	0.353
Nipple position rated as "Excellent"	32%	25%	0.138
Breast position rated as "Excellent"	47%	26%	<0.001
Symmetry rated as "Excellent"	33%	24%	0.038
Median overall score	8	7	0.004

Increasing weight of specimen adversely influenced both CS and NSP opinions ($r = -0.201$, $P = 0.002$ and $r = -0.175$, $P = 0.007$).
Consultant Surgeons universally scored the outcomes of breast conserving surgery more highly than non-surgeons. Both groups were more satisfied if the resected specimen was small.

O-21 Residual disease after excision of ductal carcinoma *in situ* of the breast: a multivariate regression analysis of predictive factors

J.T. Jenkins, J. Mansell*, C.R. Wilson, E.A. Mallon, J.C. Doughty, W.D. George. *Western Infirmary, Glasgow, UK*

Background: Recurrent disease after DCIS treatment may result from outgrowth of the same disease; "residual disease"; or a new primary tumour. The only definitive method of detecting residual disease involves further surgery. Reliably predicting residual disease and the need or avoidance of further surgery would usefully guide surgical management.
Methods: 432 consecutive patients with DCIS and definitive assessment for residual disease were assessed. Patients undergoing mastectomy as the initial surgical procedure were excluded. Multiple clinical factors were prospectively recorded and multiple histopathological features were reassessed by a single pathologist. Univariate predictors of residual disease were submitted to multivariate logistic regression analysis to identify independent predictors of residual disease.
Results: Of 432 patients, 201 (46.5%) had residual disease. 205 (47%) initial excision margins were involved; single margin involvement in 84 specimens, the remainder had two or more involved margins. Significant univariate predictors were; margin status, extensive DCIS, pathological size, comedonecrosis, micropapillary histology, nuclear grade, Van Nuys Pathological Classification, volume of excision, HRT use, and presentation mode. Multivariate logistic regression assessed a suitable model for residual disease prediction. Margin status [OR 2.5 (95% CI 1.16–5.39)], extensive DCIS [OR 2.16 (95% CI 1.49–3.14)], micropapillary [OR 2.29 (95% CI 1.41–3.73)] and comedonecrosis histology [OR 1.66 (95% CI 1.17–2.36)] were independent predictors of residual disease.
Conclusions: Identifying a group of DCIS patients at highest risk of residual disease is worthwhile. Patients with one or more risk factors may benefit from re-excision, mastectomy, or radiotherapy, to reduce recurrence. This study reports a large consecutive series with consistent pathological reporting.

O-22 Mode of recurrence of operable invasive breast cancer with reference to NICE guidelines

R. Kuzhively*, K. Harper, A. Barnsley, C. Gray, M.R. Williams. *North Cumbria Breast Unit, Carlisle, UK*

Study aims: NICE guidelines suggest breast cancer follow up by specialists should cease after 2–3 years. This study examines type and mode of presentation of recurrence in a consecutive series presenting with operable invasive breast cancer.
Patients and Methods: 1113 patients received treatment between January 1995 and December 2004 and were followed under strict protocol in designated cancer follow up clinics by Breast Physicians. Patients attended every 3/12 for 12/12, every 6/12 for second year and annually thereafter. Recurrences were entered prospectively onto a computerised database. Patients were divided into 3 groups.
Group A: Disease detected at specialist follow up clinic. Group B: Direct GP referral for recurrence Group C: Recurrence detected by routine mammography
Results: 168 patients have recurred. 75 (45%) recurred with loco-regional disease alone (36 local, 33 regional, 6 combined); 76 (45%) with metastases alone and 17 (10%) with combined disease. Median follow up = 63 months. Lost to follow up <2%.

Mode of presentation of recurrence

Group A	113 (67%)
Group B	47 (28%)
Group C	8 (5%)

Time to recurrence

<12 months	28 (17%)
12–24 months	57 (34%)
25–36 months	29 (17%)
>36 months	54 (32%)

Conclusion: 67% of all recurrences were detected by specialist follow up and 32%, to date, occurred after 3 years. This suggests that NICE guidelines may need revisiting.

O-23 Patient led breast cancer follow up

D. Chapman*, E. Cox, G.C. Wishart. *Addenbrookes Hospital, Cambridge, UK*

We recently introduced patient-led follow up (PLFU) for low risk breast cancer patients. The aim of this study was to audit patient satisfaction with this protocol.
A questionnaire was sent to 114 consecutive, low risk (post-menopausal, node negative, NPI < 3.4, DCIS

only) discharged during an exit interview at the end of their treatment from September 2005 until March 2007. Patients were given contact information for breast nurse specialists, and received regular mammographic surveillance, but were only seen at a breast clinic if necessary.
From the 114 questionnaires there were 78 respondents (68%) who completed at least one of the ten questions. 62 of the 78 (79%) received verbal information about PLFU at discharge and of these 61 (98%) felt the information was easily understood. 55 of the 78 received written information regarding PLFU and this was clear in 53 (96%). 60 of 76 (79%) had received their mammography appointment card and of these 57 (95%) found it easy to interpret. 74 of 78 (95%) patients had a clear idea how to contact the breast unit, but only 5 of 78 patients (6%) required a clinic appointment during the study period. All 61 respondents (100%) were either very satisfied or satisfied with process to contact the breast unit. Only 7 of 65 (13%) patients felt that the PLFU service could be improved.
The introduction of a PLFU protocol for low risk breast cancer patients has been well received by the majority of patients. This model is applicable to all UK breast units.

O-24 Total duct excision is still required if breast cancers are not to be missed

G.F. Heard*, T. Boyce, R. Skyrme, C.A. Gateley. *Royal Gwent Hospital, Newport, Wales, UK*

Introduction: Nipple discharge is the third most common reason for presentation to a symptomatic breast clinic. Discharge that is clear, serous, serosanguinous or blood-stained is associated with an increased incidence of malignancy. No other methods of investigating nipple discharge have been found to be a suitable substitute for surgery to exclude malignancy.
Methods: Details of patients undergoing either microdochectomy or total duct excision between 1995 and 2005 were collected and analysed. An eligible cohort of 194 patients who underwent duct excision for nipple discharge alone was identified.
Results: Malignant disease was identified in 11 (5.7%) patients: 4 invasive and 7 in-situ. All but one patient with malignant disease had single duct unilateral discharge. Discharge due to malignant disease was significantly more likely to be bloodstained than that due to benign causes (Fisher's exact test, 2-tailed p-value = 0.00134). Two of three patients with ADH have gone on to develop malignancy and six patients with benign pathology have also developed malignancy; 3 in the ipsilateral breast and 3 in the contralateral breast.
Conclusion: Our findings do not support a policy of conservative management. We have found that 10.2% of patients with demonstrably bloodstained nipple discharge had an underlying malignant lesion, despite the absence of other clinical or radiological abnormality. From our data it would appear practical to advocate conservative management for women less than 30 years of age. We conclude that cases of demonstrably blood-stained discharge should undergo duct excision if malignant lesions are not to be missed.

O-25 Are there associations between deprivation and tumour characteristics and treatment factors in the scan breast cancer database?

C. Ellis*, S. Wild, U. Chetty, C. Dodd, M. Barber. *Western General Hospital, Edinburgh and University of Edinburgh, UK*

This study aimed to explore if there were any socioeconomic gradients in tumour characteristics or treatment factors for breast cancer that could explain the socioeconomic gradients in breast cancer specific survival observed by a number of previous studies. The South East Scottish Cancer Network (SCAN) collects a compulsory dataset on all new breast cancer cases in the South East of Scotland. Four of the five databases which make up SCAN which cover residents of Lothian, Fife and Borders were used in this study. Between 1996 and October 2006 6942 patients were registered. Quintiles of the Scottish Index of Multiple Deprivation (SIMD) Score derived from 2001 census data were assigned to each patient in the database using their postcode. Women for whom no deprivation score could be assigned and all men were excluded leaving 6869 records. Associations between SIMD and the outcome measures were assessed used χ^2 tests and p values are presented for trends across deprivation quintiles. Logistic regression modelling was used to estimate odds ratios (OR) for the outcome measures after adjusting for potential confounders with data presented for comparisons between the most (Q5) and least (Q1) deprived quintiles. Increasing deprivation was significantly associated with increased risk of having a non-screening referral ($p = 0.044$), of having oestrogen receptor negative tumours ($p = 0.001$) and grade III tumours ($p = 0.001$). Deprived women were no more likely than affluent women to have Stage III/IV disease but did appear less likely to have in situ disease. The only treatment factors associated with deprivation were waiting >28 days from referral to first clinic for women with non-screen detected cancers (OR for Q5 vs. Q1 = 1.41 (95% CI 1.08–1.84), entry into a clinical trial (0.61, 0.50–0.75) and reconstruction surgery among women who had received mastectomy (0.31, 0.16–0.62). There was no association between deprivation and breast surgery type, receiving axillary surgery (patients who received breast surgery only), receiving adjuvant therapies or waiting >28days from first clinic to staring treatment after adjusting for age, stage and other clinically relevant factors. The findings suggests that differences by deprivation in treatment received do not contribute to socioeconomic gradients in survival but tumour characteristics may be part of the explanation in this population of women with breast cancer.

O-26 A comparative study of pathological prognostic features, treatment and outcomes in women diagnosed with ductal carcinoma *in situ* of the breast from affluent and deprived areas

J.T. Jenkins, J. Mansell*, C.R. Wilson, E.A. Mallon, J.C. Doughty, W.D. George. *Western Infirmary, Glasgow, UK*

Introduction: Few data exist that report the effect of deprivation in relation to DCIS management and pathological variations. We assessed management of ductal carcinoma *in situ* in affluent and deprived groups and whether differences in clinical and pathological factors were present.
Methods: All patients treated for DCIS between 1988 and 2001 were assessed. Outcomes measured were: mode of detection, tumour size, histological grade, surgical procedure, adjuvant therapy and recurrence in relation to deprivation category. Deprivation was categorised using Carstairs and Morris Index. The intermediate group was not assessed.
Results: 686 patients were diagnosed with DCIS; 164 (24.7%) lived in affluent areas and 161 (24%) in deprived areas. No difference in mode of detection (screening/symptomatic) between deprivation categories was found (OR 1.35 (95% CI 0.831–2.197); $p = 0.224$). No differences in the initial surgical procedure or eventual surgical