Results: The rate of histological confirmed ductal spreading were seen in 104/191(54%) patients 85% (40/47 cases) and 83% 192(92) of cases were with patients with 3D-MRI pattern 1, 2, and 3, respectively. From April 2005, resected specimen was serially step cut and total specimens were evaluated. Tumor diameter from nipple side to lateral margin were measured by MRI and resected specimens, tumor size was correlated between MRI and resected specimens, significantly (n=47, r=0.887,P<0.001). Patient selection for breast conserving surgery was based on 3D-MRI images. The proportion of breast-conserved surgery were obtained 95% (182/191 cases), 89% (42/47 cases), 26% (623 cases) and 89% (6674 cases) of patients with 3D-MRI pattern 1, 2), 3), and 4), respectively. Local failures were seen 2cases in pattern 1), one case in 3) and one case in 4) (1-73 months, median follow up 36 months).

Conclusion: These results suggest that MRI will be the useful breast imaging tool in diagnosing ductal spreading and tumor size in breast cancer patients. Safety breast conserving surgery was achieved by MRI guided surgery.


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Background: Breast conserving therapy has been offered to increasing numbers of women with early breast cancer with greater attention to surgical margins.

Patients and methods: A retrospective analysis was carried out of a consecutive cohort of 1816 patients managed by breast conserving surgery in Edinburgh between 1981-98.

Results. Mean clinical tumour size was 20.7 mm. Mean age was 54.8 years (range 24-91). 64.8% of patients were postmenopausal. Axillary surgery was by node sample, dissection or axillary clearance in 1361 (76.5%), 36 (2%) and 387 (21.3%) patients respectively. Histological nodal status was negative in 1322 (70.5%) patients and positive in 493 patients (29.5%). Radical radiotherapy (RT) was delivered to the whole breast. Axillary RT was given to 601 patients. A boost was given by electron(1352) iridium implant (377) or photons (15). Adjuvant systemic therapy was with tamoxifen (1184), CMF chemotherapy (136), CMF + hormones (140), Bonnadonna/EpiCMF (28) and oophorectomy (35). No adjuvant systemic therapy was given to 230 patients.

Histological characteristics of the population were: no special type (grade 1 (303), grade 2 (138), grade 2 (120-235 minutes) and 157-227.1 minutes for partial mastectomy (120-200 minutes) and average volume of bleeding was 209.4cc (30-900cc). In all cases, nipple areolar complex could be conserved. Breast reconstruction after total mastectomy was performed in 10 patients (6 with immediate saline bag implantation, 1 was performed delayed implantation). Mean follow up time was 11.5±14.7. In all cases, nipple areolar complex could be conserved. Breast reconstruction after total mastectomy was performed in 10 patients (6 with immediate saline bag implantation, 1 was performed delayed implantation). Mean follow up time was 11.5±14.7 months. There were 2 cases of cancer recurrence at axillary node and neck node, respectively. In case of partial mastectomy with mesh, follow up ultrasonography showed granulomatous walled seroma without any sign of complication. This could be confirmed grossly and pathologically in one patient who underwent salvage operation for local recurrence. This work presents a novel approach for the automated prediction of the aesthetic result of breast cancer conservative treatment (BCCT). Cosmetic assessment of BCCT plays a major role in the study of breast cancer treatment evaluation. Objective assessment methods are preferred to overcome the drawbacks of subjective evaluation. This work presents a novel approach for the automated prediction of the aesthetic result of breast cancer conservative treatment (BCCT). Cosmetic assessment of BCCT plays a major role in the study of breast cancer treatment evaluation. Objective assessment methods are preferred to overcome the drawbacks of subjective evaluation. This work presents a novel approach for the automated prediction of the aesthetic result of breast cancer conservative treatment (BCCT). Cosmetic assessment of BCCT plays a major role in the study of breast cancer treatment evaluation. Objective assessment methods are preferred to overcome the drawbacks of subjective evaluation. This work presents a novel approach for the automated prediction of the aesthetic result of breast cancer conservative treatment (BCCT). Cosmetic assessment of BCCT plays a major role in the study of breast cancer treatment evaluation. Objective assessment methods are preferred to overcome the drawbacks of subjective evaluation. This work presents a novel approach for the automated prediction of the aesthetic result of breast cancer conservative treatment (BCCT). Cosmetic assessment of BCCT plays a major role in the study of breast cancer treatment evaluation. Objective assessment methods are preferred to overcome the drawbacks of subjective evaluation. This work presents a novel approach for the automated prediction of the aesthetic result of breast cancer conservative treatment (BCCT). Cosmetic assessment of BCCT plays a major role in the study of breast cancer treatment evaluation. Objective assessment methods are preferred to overcome the drawbacks of subjective evaluation.
and 8 scar visibility indices were collected. A joint feature selection and classifier design was next conducted with support vector machines. The developed algorithm was evaluated in terms of expected error rate.

**Results**: The best subset of indices in terms of classification error rate comprises 2 indices for assessing asymmetry, 2 indices for assessing colour differences and 2 indices for assessing scar visibility. An expected correct classification rate of 80% was obtained when categorizing a set of unseen images into the aforementioned four classes. This rate is better than the result of the best expert from the panel, when confronting the individual classification with the panel consensus.

**Conclusion**: The results obtained are rather encouraging and the developed tool could be very helpful for assuring objective assessment of the aesthetic result of BCCT.

### 1084 Attitudes towards breast conserving surgery in the over 70’s.

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**Background**: The majority of breast conserving surgery (BCS) is performed in younger women with breast cancer. There is little published information about the views of women aged over 70 regarding BCS and the factors which are important in influencing their decision about the type of surgery to choose.

**Methods**: A questionnaire was sent to 180 patients who were aged 70 or over at the time they had breast cancer surgery. Responses were received from 111 patients (62%). Of these 71 patients had had a mastectomy (64%) and 40 patients had BCS performed (36%).

**Results**: More than 80% of patients in both groups made their final decision about the type of surgery to have during their first outpatient consultation. 85% of patients who had a mastectomy said that their surgeon had recommended this as the best surgical option for them compared with 75% of those having BCS. More patients who ultimately chose mastectomy had the expectation that they would require mastectomy when they were first told they had breast cancer than patients having BCS (66% vs 45%). 18% of patients who had a mastectomy said they would have preferred to have BCS if that had been an option for the treatment of their breast cancer. 50% of patients said they would have been happy to take neoadjuvant endocrine therapy in an attempt to shrink their tumour preoperatively to try to facilitate BCS. However, only 11% of patients would have considered neoadjuvant chemotherapy with the same aim.

**Discussion**: BCS is something that patients aged over 70 are interested in considering in the same way as younger patients. As many as half of patients requiring mastectomy would be willing to take neoadjuvant endocrine therapy to attempt to downstage their tumour to facilitate BCS. Although some patients were put off by the requirement for post operative radiotherapy the majority of patients did not consider this to be a problem.

### 1085 The saline instillation method gives high percentage of breast conserving surgery, few rersections, very few patients needing reconstruction and few oncoplastic operations.

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**Background**: Breast Conserving Surgery (BCS) is safe, but the relapse rate must be kept low. Could anything be done locally in the breast increasing the radicality of the removal and at the same time optimizing the cosmetic result? Instillation of saline into the cavity after the tumour removal creates a seroma during the wound healing prohibiting scar, deviation and deformation and makes it possible with large resections up to 1/3 of the breast. The saline does not disappear and with time the cavity is filled with firm tissue like connective tissue.

**Material and Methods**: Since 01 10 01 until 02 06 05 a strict consecutive series of 548 breast cancer patients have been operated with saline instillation into the cavity using 140% in ml’s compared to the gms tissue removed. The wound has been closed with a single layer continuous subdermal suture making the closure water-tight. **Results**: Compared with the period before the saline instillation, the radicality was increased to 183% (i.e. Weight of the specimen divided by the diameter of the tumour). In our population of half clinically detected cancers and screening detected tumours 83% could be operated by BCS. Only two relapses which gives <2% relapse rate after 10 years. Only 17% had a mastectomy and 53% of these were>75 years leaving only 5 pts per year in a population of 140 new cancers per year wishing a reconstruction of the breast performed. 85% of the BCS cases were quite satisfied with the result wanting no further surgery, and out of the 15% wanting oncoplastic surgery half of these just needed reduction on the other side. 7-8 pts per year needed and wanted augmentation on the operated side.

**Discussion**: A simple procedure like saline instillation can optimize BCS, minimizing loss of the breast and reducing the need for plastic surgical expertise.

### 1086 MR guided focused ultrasound surgery (MRgFUS) of breast cancer.

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**Background**: It has been clarified that due to the historical change of theoretical establishment on biological characteristics of breast cancer, the significance of lymph node dissection does not lie in the treatment, but in examination for predicting systemic metastasis and establishing treatment strategy. The change of understanding for the local therapy in the background may have promoted emergence of Non-Surgical Ablation. That is, Non-Surgical Ablation for cancer nest in the breast is an extension of conservative treatment of breast cancer, in other words, ultimate conservative treatment of breast cancer. Idea of utilizing focused ultrasound is one of the methods including radiofrequency, cryotherapy, laser, and microwave.

**Methods**: In our facility, phase II clinical study BC003 to conduct FUS under contrast MRI was performed on 30 patients from April of 2004 to February of 2005. The endpoints of BC003 are pathological effect and adverse events. At the same time, 22 patients have been treated as the commercial patients out of protocol. And we have tried phase III clinical study BC004 on 100 patients from April of 2005. BC004 is the final clinical trial of MRgFUS of breast cancer. This study does not include surgical excision and include sequential radiotherapy. The endpoint of it is local recurrence rate.

**Results**: The treatment effect in BC003 on the targeted tumor was 96.7 percent in terms of the tumor area on the sample and 99 percent or greater in terms of the volume. In terms of safety, the results were almost satisfactory. Only one case was which was diagnosed mucinous carcinoma was a recurrent case in the treatment of commercial patients. BC004 is on going.