and PROs. Study quality and risk of bias (RoB) were assessed using GRADE and Cochrane's ROBINS-I tool respectively.
Results: Out of 6381 articles screened, 18 were included (unilateral 919 DIEPs, 452 implants; mean age 49 years, follow-up (months): DIEP 28.9; IBR 42.9. There were 7 prospective/9 retrospective cohort studies, 2 case series and no RCTs. Mean flap loss and fat necrosis rates were 3.90% (SD 3.86) and 9.67% (SD 17.0) respectively. There was no difference in mean length of stay [DIEP 8.42 days (SD 2.23) vs IBR 7.90 days (SD 5.34), p=0.82]. Mean number of revision procedures was lower in DIEP (0.80; SD 1.07) vs IBR (1.53; SD 1.52), p<0.01. Study quality was low with serious RoB. One study (n=275) reported $11,941/QALY ICER for DIEP, with higher breast QALY (DIEP 19.5; IBR 17.7) using BREAST-Q; two studies (n=275) showed no overall cost differences, favouring DIEP. Two studies (n=339) evaluating PROs favoured DIEP.
Conclusion: DIEP reconstruction may be more cost-effective and yield superior PROs. However, poor quality, bias-ridden studies limit the findings. Level-I evidence evaluating core outcome sets and cost-effectiveness will facilitate national-level policy and shared decision-making.

08. CAN WE TRUST OUR DATA? A COMPARATIVE ANALYSIS OF IBRA AND HES DATA

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Introduction: Implant-based breast reconstruction is the most commonly performed reconstructive procedure in the UK. Data from the iBRA study demonstrated implant loss at 3 months as high as 30%. Data acquired by GIRFT found an implant loss rate of 7.5% at 12 months nationally. GIRFT relies on HES data, whereas the iBRA study was a National Trainee Research Collaborative. We have used HES data to validate our iBRA cohort.
Method: Searching HES data using the following codes: B30.1, B30.2, B30.3, B30.4, S48.20, B29.8, Y02.2, we developed a dataset of patients who had mastectomy and immediate breast reconstruction with implants during the iBRA study period.
Results: Implant loss at 3 and 12 months is shown in the table. Causes for variation between the datasets will be explored and presented. Different codes were used to describe the same surgical procedure, the complexity of the different codes will be also be presented.

Royal Marsden outcomes	iBRA data n = 102 (%)	HES n = 235 (%)
Implant loss at 3 months	7 (6.9)	11 (4.7)
Implant loss at 12 months		19 (8.1)

Conclusions: Unit level and possibly surgeon level data will be published in the public domain in the near future. There are limitations to iBRA due to the nature of voluntary data entry and to HES due to a variation in the utilisation of the large number of existing codes. Collaboration between clinicians and informatics teams is essential to improve data quality. Without this we cannot adequately provide informed consent to our patients.

09. IS NEOADJUVANT RADIOTHERAPY PRIOR TO MASTECTOMY AND AUTOLOGOUS RECONSTRUCTION SAFE? COMPARISONS BETWEEN PRADA TRIAL PATIENTS AND HISTORICAL CONTROLS

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Introduction: For patients with locally advanced node-positive disease requiring post-mastectomy radiotherapy (PMRT), integrating breast reconstruction poses challenges. Irradiating autologous tissue may cause fibrosis, fat necrosis, shrinkage and longitudinal degradation of symmetry. Many patients are denied immediate breast reconstruction (IMBR). An approach to avoid flap irradiation is neoadjuvant radiotherapy (NRT) to the tumour-bearing breast prior to mastectomy and IMBR. The aim of this study was to evaluate the safety of this approach.
Methods: Following ethical approval (IRAS:15/LO/1071; amendment AM/1806/86), a retrospective case-control study was undertaken to compare the complication profiles of patients recruited to receive NRT prior to IMBR within or outwith the PRADA trial (NCT02771938)(n=42), and unmatched historical controls receiving PMRT, either following immediate free-flap reconstruction (n=41) or simple mastectomy (n=44).
Results: There was no significant difference between cohorts in tumour grade (p=.470), histological subtype (p=.108), ER (p=.200), PR (p=.239), HER2 (p=.559) or nodal status (p=.153). Simple mastectomy patients were significantly older [mean age years ± Std:NRT=48.5±8.6, PMRT=49.4±9.3, flat chest=58.0±9.2;p<0.001). There was no significant difference between groups in unplanned return to theatre at twelve weeks. There were no free-flap failures in any group. Critically, there was no statistically significant difference in skin necrosis rates. A greater proportion of patients undergoing simple mastectomy required post-operative antibiotics (p=.013). A greater proportion of open wounds were observed in patients undergoing PMRT to free-flaps (p=.051).
Conclusions: NRT prior to autologous IMBR was not associated with significantly greater complication profiles when compared to unmatched historical controls, supporting the safety of radiotherapy sequence-reversal.

10. LOSS RATES IN SLING-ASSISTED IMPLANT-BASED BREAST RECONSTRUCTION OVER TIME SEEM TO RELATE TO PROPORTION OF PATIENTS WITH KNOWN RISK FACTORS RATHER THAN ANY LEARNING CURVE

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Introduction: Ongoing audit of sling-assisted, implant-based breast reconstruction (SAIBBR) in Edinburgh has identified factors contributing to implant loss. It was hoped that as a result of this, loss rates would have dropped over time. The present study aimed to assess if there was a reduction in reconstructive loss rate.
Methods: SAIBBR has been performed on 766 occasions in the Edinburgh Breast Unit between July 2008 and June 2018 with median follow up of 795 days. Smoking and radiotherapy have previously been identified as significant risk factors for reconstruction loss and outcome data has been fed back to breast team members on an annual basis. Data on rate of loss of implant was analysed across the unit in 6 monthly increments and on 8 individual surgeons with an experience of over 60 cases.
Results: There was no statistically significant change in loss rate over time and no obvious trend towards improvement. Instead there seemed to be an association between loss rate and the proportion of patients with known risk factors.
Conclusions: SAIBBR has a relatively high loss rate which persists in our unit despite good understanding of risk factors. Surgeons and patients are continuing to choose this option despite risks, presumably because it is relatively quick and simple, may sometimes be the only realistic reconstructive option and can still produce a respectable result in the majority of cases. These factors must be taken into consideration when assessing unit or surgeon level loss rates in implant-based breast reconstruction.

11. THERAPEUTIC MAMMAPLASTY IS A SAFE AND EFFECTIVE ALTERNATIVE TO MASTECTOMY WITH OR WITHOUT IMMEDIATE BREAST RECONSTRUCTION, PARTICULARLY IN HIGH-RISK PATIENTS: COMBINED ANALYSIS OF 2,916 PATIENTS IN THE IBRA-2 AND TEAM MULTICENTRE PROSPECTIVE COHORT STUDIES

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