

Covert surveillance of infection prophylaxis measures applied during implant surgery

Julia R Henderson, Sandhir Kandola, Susan Hignett, Rebecca Teasdale, Ashley Topps, Cliona C Kirwan

on behalf of the North West Breast Trainees Research Collaborative.

Introduction & Aims

Infective complications following breast implant surgery are difficult to treat and may lead to explantation. A range of different precautions are undertaken to reduce this risk. The ABS Oncoplastic Breast Reconstruction guidelines for best practice lay out quality criteria and make recommendations (Box 1), however there is little level one evidence to support most precautions.

Box 1.

ABS Oncoplastic Guidelines, Quality Criteria:

Patients are MRSA (+MSSA in implant cases) screened prior to admission and have topical suppression where positive in accordance with national/local policy Target: MRSA screening occurs in 100% of patients prior to admission.

Patients undergoing implant-based reconstruction are given a single intravenous dose of appropriate antibiotic(s) on induction Target: All patients undergoing implant-based reconstruction receive intravenous antibiotics on induction.

The aim of this audit was to establish what interventions are regularly undertaken to prevent infection during implant based surgery, whether these varied across units and were applied consistently and whether the recommendations in the ABS Oncoplastic guidelines were followed.

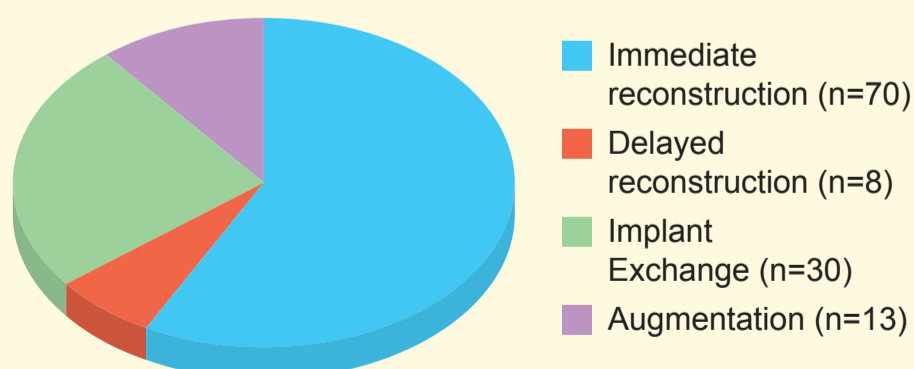
Methods

This was a regional multicenter audit, trainees collected data prospectively in real time over an eleven-month period. Seven units submitted data on cases performed by 22 Consultant Breast Surgeons.

Results

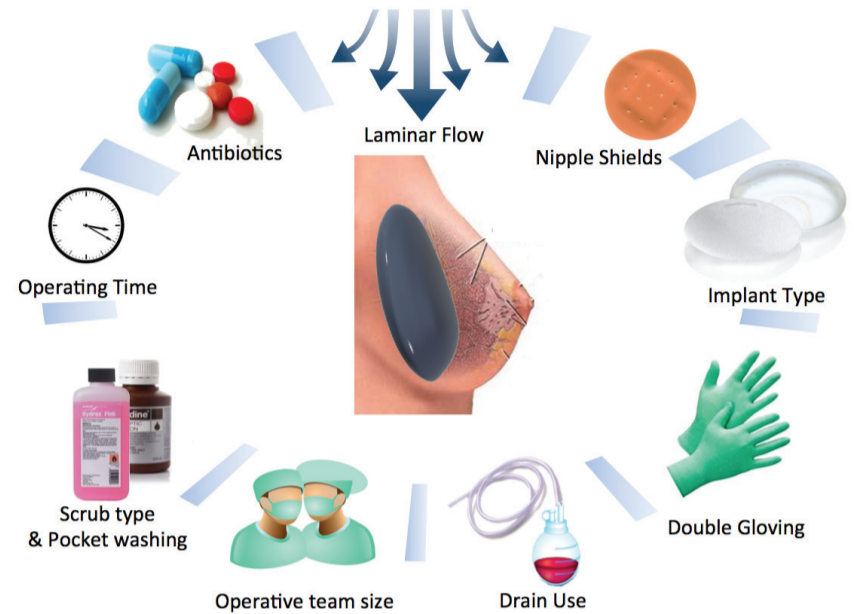
121 implant procedures were performed in 94 patients, 27 had bilateral implant procedures. The commonest procedure performed was immediate reconstruction (58%, n=70) (figure 1) with an ADM used in 59% (n=41).

Figure 1. Procedure Type



All patients were screened preoperatively for MRSA, MSSA screening was performed in 13 cases (14%).

Antibiotics were given at the time of surgery for all cases. The majority of patients (92%, n=85) received a postoperative course of antibiotics most commonly for 5 days (42%, n=39) and ranging from 2 days to 2 weeks.

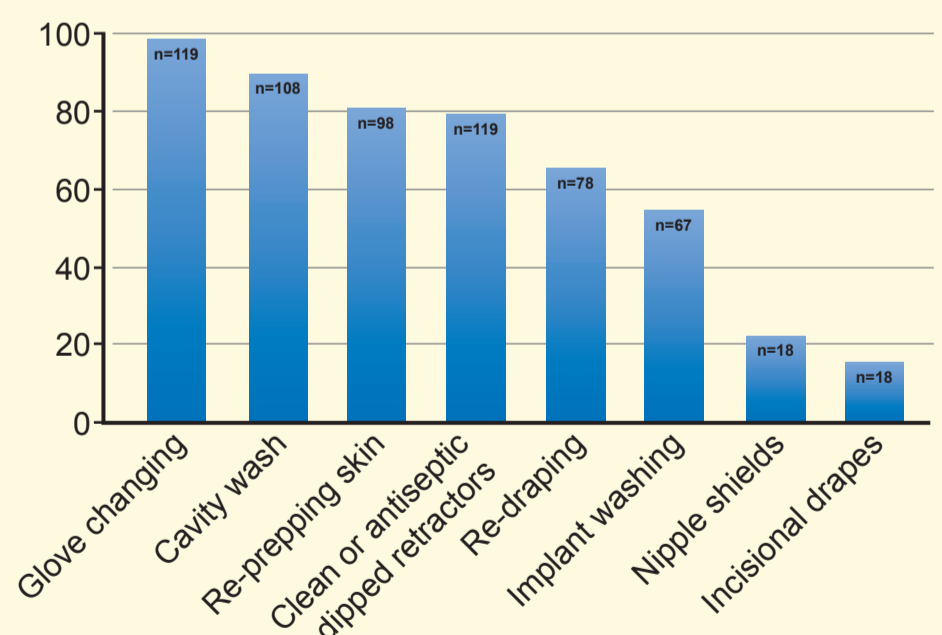


Laminar flow theatres were used in 3 units and for 82% of the cases performed by these units. All units used disposable drapes and 5 of the 7 used disposable gowns, only 2 units used both for all implant cases. Signs were used on theatre doors to reduce theatre traffic in 74% (n=68) of cases. Surgeons used a brush to scrub for 40% (n=37) of cases and a closed glove technique in 68% (n=63).

Gloves were changed prior to implant handling in all but two cases. Other precautions undertaken at implant insertion are shown in figure 2. At the time of implant opening all staff in theatre were masked for 76% of procedures (n=92).

Among the 14 consultants performing more than one procedure (range 2-22, median 5), only one used exactly the same precautions when siting an implant. The commonest inconsistencies being cavity washing (11 of 14 Consultants), re-draping (8 of 14), implant washing (7 of 14) and skin re-prepping (5 of 14).

Figure 2. Precautions undertaken at time of implant insertion.



Conclusions

ABS guidance for MRSA screening (but not MSSA) and IV antibiotics at time of surgery were met in all cases. A range of other precautions were taken, these were not applied consistently. There was considerable variation in the application of precautions between units and individual surgeons. More surprisingly there was variation within the practice of individual consultants as to which precautions were applied. This may reflect the lack of high quality evidence to support such interventions.