SURGICAL SITE INFECTION PREVENTION & TREATMENT

Amendments

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<th>Date</th>
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<tr>
<td>Feb. 2010</td>
<td></td>
<td>Updated in line with the Trust’s Policy Writing &amp; Ratification Policy.</td>
<td>Caroline Becher, Chief Nurse</td>
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<td>March 2012</td>
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<td>Expiry of review date.</td>
<td>Suzanne Rankin, Chief Nurse</td>
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Compiled by: The Infection Control Team
In consultation with: Control of Infection Committee
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Reviewed by: Linda Fairhead
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Target audience: All Trust staff
Impact Assessment carried out by: Linda Fairhead, Consultant Nurse, Infection Prevention & Control

Comments on this document to: Linda Fairhead, Consultant Nurse, Infection Prevention & Control
1. INTRODUCTION

The term ‘surgical site infection’ (SSI) was introduced in 1992 to replace the previous term ‘surgical wound infection’. SSIs are defined as infections occurring within 30 days after a surgical operation (or within one year if an implant is left in place after the procedure) and affecting either the incision or deep tissue at the operation site. These infections may be superficial or deep incisional infections, or infections involving organs or body spaces.

2. PURPOSE

SSIs remain a major cause of morbidity and mortality comprising of 20% of all healthcare-associated infections and at least 5% of patients undergoing surgery develop an SSI despite improvements in infection control techniques and surgical practice, and impose substantial demands on healthcare resources. Continuing vigilance is therefore required to minimise the incidence of such infections. This requires a systematic approach as the majority of surgical site infections are preventable in relation to the patient, the procedure, and the hospital environment. It is important that healthcare professionals adhere to best practice to prevent and manage surgical site infection.

3. PREOPERATIVE PHASE

3.1 Patient Preparation

Patients should be advised to have a bath (or be assisted to bathe/shower or bed bath) the day before or the same day as surgery, using soap. Some surgeons may request patients are washed in chlorhexidine or betadine. The correct attire should be provided which is appropriate for the procedure and clinical setting, providing easy access to the surgical site but also being mindful of patients’ comfort and dignity. Hair should not be removed routinely (if it is necessary then use an electric clipper with single-use disposable head on the day of surgery.

Do not use a razor as this increases the risk of surgical site infection.

Do not use nasal decontamination and topical antimicrobial agents routinely for Staphylococcus aureus or mechanical bowel preparations as a method of reducing the risk of surgical site infections.

3.2 Antibiotic Prophylaxis

Antibiotic prophylaxis are given using the Trust’s antibiotic formulary and potential adverse side effects are considered as well as the timing and pharmacokinetics of the antibiotic. Consider earlier administration if a tourniquet is used and give a repeat dose of the antibiotic when the operation is longer than the half life of the antibiotic. Patients who have a dirty or infected wound should be given additional antibiotic treatment. Wherever possible inform patients before the operation if they will need antibiotic prophylaxis and inform them afterwards if they have been given antibiotics prophylactically.
Antibiotic prophylaxis should not be given routinely for clean non-prosthetic surgery but should be given for:

(a) Placing a prosthesis or implant (except iv lines).
(b) Clean contaminated surgery.
(c) Contaminated surgery.

3.3 Staff Preparation

Theatre staff should wear specific non-sterile theatre wear in areas where operations are being carried out and movement of staff in and out of these areas should be kept to a minimum. All staff should ensure that the Trust’s Hand Hygiene Policy is adhered to and that staff have removed all jewellery (except a plain wedding band), nail polish, nail extensions and artificial nails, and that correct hand decontamination for surgical procedures is being undertaken.

4. INTRAOPERATIVE PHASE

4.1 Operating Team Preparation

The operating team should wash their hands using an antiseptic surgical solution and use a single-use brush to clean the nails, so that hands and nails are visibly clean prior to the first operation on the list. Before subsequent operations and following line removal hands should be washed and an alcoholic hand rub (Purell 85) should be used. Purell 85 is licensed for three hours and must be applied again after this time has lapsed if hands remain visibly clean.

The operating team should wear sterile gowns in the operating theatre during the operation and should wear two pairs of sterile gloves if there is a high risk of glove perforation and contamination would have serious consequences.

4.2 Patient Skin Preparation

To prepare the skin at the surgical site immediately before incision patient’s skin should be prepared using an antiseptic preparation such as alcoholic povidone-iodine or alcoholic chlorhexidine. Chlorhexidine must be used for patients with an iodine allergy. For patients who are allergic to both products Trichosan 2% (Aquasept) is to be used. Do not use non-iodophor-impregnated incise drapes as a means to reduce SSI. When an incise drape is required, use an iodophor-impregnated drape unless the patient has an iodine allergy. If diathermy is used then the antiseptic skin preparation must be allowed to dry. Diathermy must not be used as a means of surgical incision.

4.3 Maintaining Patient Homeostasis

During the operation ensure that the patient’s temperature is maintained. (See NICE guideline on inadvertent perioperative hypothermia available at www.nice.org.uk/ CG065).

Ensure that the patient is adequately oxygenated in particular give oxygen during major surgery and in the recovery period to ensure haemoglobin saturation of above 95% and adequate perfusion.
Insulin should not be given routinely to optimise post-operative blood glucose levels in patients who do not have diabetes.

4.4 Wound Dressings

Surgical incisions should be covered with an appropriate interactive dressing at the end of the operation. Wound irrigation and intracavity lavage should not be used to reduce the risk of surgical site infections nor should intraoperative skin redisinfection or topical cefotaxime in abdominal surgery be used.

5. POST OPERATIVE PHASE

5.1 Wound cleansing/dressing

Patients are safe to shower 48 hours after surgery. Use sterile saline for wound dressings. All dressings should be changed or removed using an aseptic or non-touch technique. Interactive dressings are used for wounds that are healing by secondary intention. The Trust Wound Management Formulary should be used to determine the appropriate dressing. Further advice can be obtained if required from The Senior Nurse Specialist in Wound Management.

Topical antimicrobial agents should not be used on wounds that are healing by primary intention and eusol, gauze or moist cotton gauze or mercuric antiseptic solutions should not be used for wounds that are healing by secondary intention.

Do not use Eusol and gauze, or dextranomer or enzymatic treatments for debridement of surgical site infection.

6. MANAGEMENT OF SURGICAL SITE INFECTIONS

If empirical antibiotics are required follow the Trust Antibiotic Guidelines. Take into account the results of culture of specimens taken from the wound. It is preferable to send pus or tissue for culture rather than superficial swabs of the wound. Surgical drainage of pus may be more effective than antibiotics.

7. DISSEMINATION AND IMPLEMENTATION

The policy has been written by the Infection Control Team, been agreed by the Control of Infection Committee and ratified by the Clinical Governance Committee. The policy will be available on TrustNet.

Training in the prevention and management of surgical site infections is provided at the Trust Wound Management Care Study Day.

8. PROCESS FOR MONITORING COMPLIANCE WITH THE EFFECTIVENESS OF POLICIES

The Health Protection Agency (HPA) Surgical Site (SSI) module is currently undertaken for orthopaedic surgery, this is a compulsory module which covers a three month period. This
is undertaken by the ward staff and overseen by the Infection Control Team. At the end of the module the data is analysed by the HPA and reports returned to the Infection Control Team and Orthopaedic Directorate. If poor infection rates occur an action plan is formulated within the directorate and overseen by their Clinical Governance Lead.

Any further SSI modules undertaken by the Trust for other surgical specialities are carried out as above.

9. **EQUALITY IMPACT ASSESSMENT**

The Trust has a statutory duty to carry out an Equality Impact Assessment (EIA) and an overarching assessment has been undertaken for all infection control policies.

10. **ARCHIVING ARRANGEMENTS**

This is a Trust-wide document and archiving arrangements are managed by Quality Dept. who can be contacted to request master/archived copies.

11. **REFERENCES**