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Implementation of SSI NICE Guidelines – perioperative phase

Professor Judith Tanner
De Montfort University and
University Hospitals of Leicester

HPA SSI Surveillance 2007

<u>Category</u>	<u>No of Hosp</u>	<u>% SSIs</u>
Abdominal hyst	12	0.3
Hip	166	0.5
CABG	12	2.7
Vascular	19	3.6
Small bowel	5	7.4
Large bowel	20	8.3

Surgical Site Surveillance

Picture removed for copyright reasons

Surveillance Programme

“ January 2008 – April/May 2008

- Colorectal and primary breast surgery
- SSI definition (HPA and CDC)
- Surveillance nurse
- Full 30 day follow up
- Phone calls
- Visiting patients in their own home

Colorectal surgery - SSI

105 patients included in the surveillance

Colorectal surgery - SSI

105 patients included in the surveillance

27% (29/105) had a surgical site infection

Colorectal surgery - cost

Additional cost (on top of basic package) –
exact figures, not estimates or modelling

Resource	In patient	Community	Total cost
Extra in patient days £398	247,954		247,954
District nurse cost £56		30,912	30,912
Practice nurse cost £25		50	50
GP costs £69		138	138
Clinic/OPD £100	100		100
Vac dressing total	7,000	7,290	14,290
Dressings £6	917	1,855	2,772
Antibiotics £34		442	442
Swabs £7		56	56
Tests (ultrasound) £38		38	38
Re- admission costs £322	3,864		3,864
Total (for 29 patients)	259,835 (Acute 86%)	40,781 (PCT 14%)	300,616
Cost per SSI	8,960	1,406	10,366

Breast surgery - SSI

159 patients included in the surveillance

Breast surgery - SSI

159 patients included in the surveillance

10% (16/159) had a surgical site infection

Breast surgery - cost

Additional cost (on top of basic package) –
exact figures, not estimates or modelling

Resources	In patient	Post discharge	Total £
Extra in pt. days	8,756		8,756
District nurse cost		2,352	2,352
Pract. nurse cost		2,450	2,450
GP costs		276	276
Clinic/OPA	100		100
Silver dressings	106	153	259
Cosm. dressings		70	70
Sorbsan packing		686	686
Swabs		28	28
Antibiotics		612	612
Re-admission	5,970		5,970
Total	15,832	6,627	22,459
Cost per SSI	989.5	414	1,403

Nice Clinical Guideline 074

Intraoperative phase

- “ Hand decontamination
- “ Incise drapes
- “ Use of sterile gowns/ gloves
- “ Antiseptic skin preparation
- “ Diathermy
- “ Maintaining patient homeostasis
- “ Wound irrigation
- “ Antiseptic agents
- “ Dressings



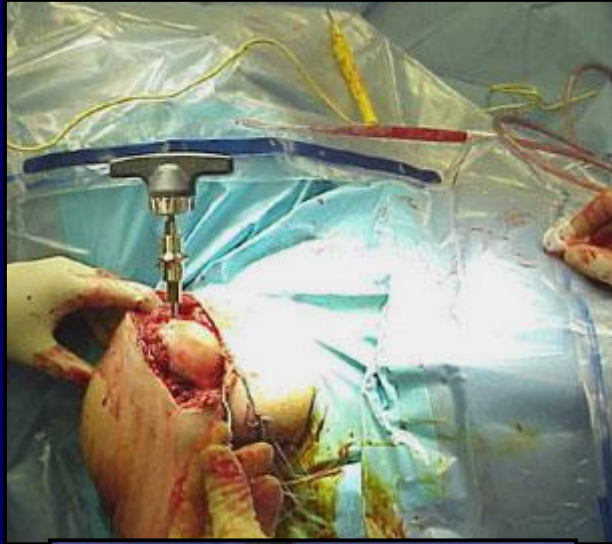
Hand decontamination



Recommendations

- “ The team should wash their hands before 1st case using an aqueous antiseptic solution, a single use brush or pick for the nails.
- “ Hands should be washed between cases either with alcoholic hand rub or antiseptic surgical solution.

Incise drapes



Recommendations

- “ Do not use non-iodophor impregnated drapes routinely for surgery as they may increase the risk of surgical site infection.
- “ If an incise drape is required, use an iodophor –impregnated drape unless the patient has an iodine allergy

Disposable or reusable drapes and gowns

Recommendation



“ There is evidence of no difference between reusable and disposable drapes and gowns in terms of SSI incidence. However technological advances may invalidate this interpretation.

European Norm EN 13795

Characteristics to CE mark gowns and drapes require:

- Resistance to microbial penetration in wet and dry conditions
- Microbial cleanliness
- Cleanliness in terms of foreign particulate matter
- Resistance to linting
- Resistance to liquid penetration
- Bursting strength – both dry and wet
- Tensile strength – both dry and wet

Gloves

Recommendations

- “ Insufficient evidence to establish a correlation between incidence of SSI and glove puncture rate.
- “ Consider wearing 2 pairs of gloves when there is a high risk of perforation and the consequences of contamination may be serious.



Antiseptic skin preparation

Recommendations

- “ Prepare the skin at the surgical site immediately before incision using an antiseptic (aqueous or alcohol based); povidine - iodine or chlorhexidine are most suitable.
- “ If diathermy is to be used, ensure skin preps are dried by evaporation and pooling of alcohol based preps are avoided.



Diathermy

Recommendation

- “ The evidence suggests there is no difference between rates of SSI where diathermy is used compared to conventional techniques.
- “ Do not use diathermy for surgical incision to reduce the risk of surgical site infection.

Maintaining patient homeostasis – normothermia

“ Warming – or maintenance of normothermia. Covered specifically by NICE Clinical Guideline 65

“Inadvertent perioperative hypothermia.”

Recommendations

- “ Patients should be assessed for risk status prior to surgery.
- “ ASA Grade 2- 5
- “ Pre-op temp below 36⁰
- “ Undergoing regional and GA
- “ Undergoing major or intermediate surgery
- “ At risk of cardiovascular complications

Maintaining patient homeostasis – normothermia (CG 65)

- “ Document pts temp pre induction and then every 30 mins.
- “ Critical incident if pt arrives in theatre with temp below 36°.
- “ Anaesthesia should not start unless 36° or above.
- “ Ambient temp 21°, cooler later.
- “ Use forced air warming technique for all surgery longer than 30 mins.
- “ Cover all pts to conserve heat (and dignity)
- “ IV fluids should all be warmed to 37°

Maintaining patient homeostasis - oxygenation

Recommendation

Maintain optimal oxygenation during surgery. In particular during major surgery and in recovery to ensure haemoglobin saturation of more than 95%



Maintaining patient homeostasis – perfusion

Recommendation - perfusion

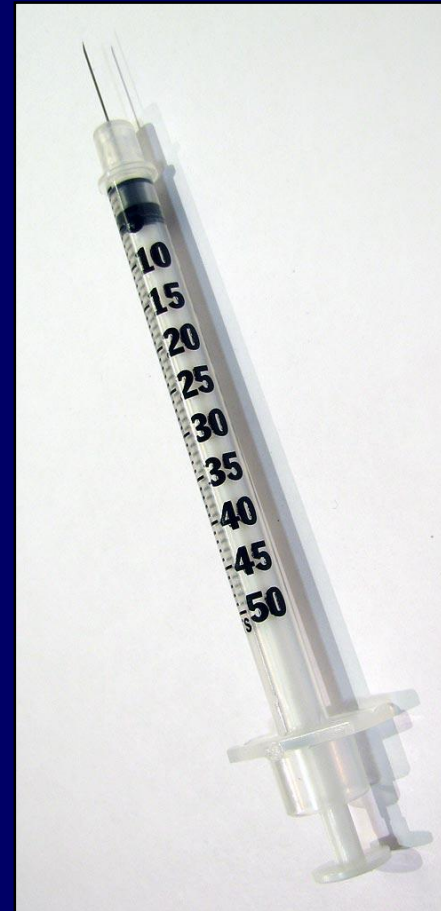
Maintain adequate
perfusion during
surgery.



Maintaining patient homeostasis – blood glucose

Recommendation

Do not give insulin routinely to patients who do not have diabetes to optimise blood glucose postoperatively – as a means of reducing SSI.



Wound irrigation and intracavity lavage

Recommendations

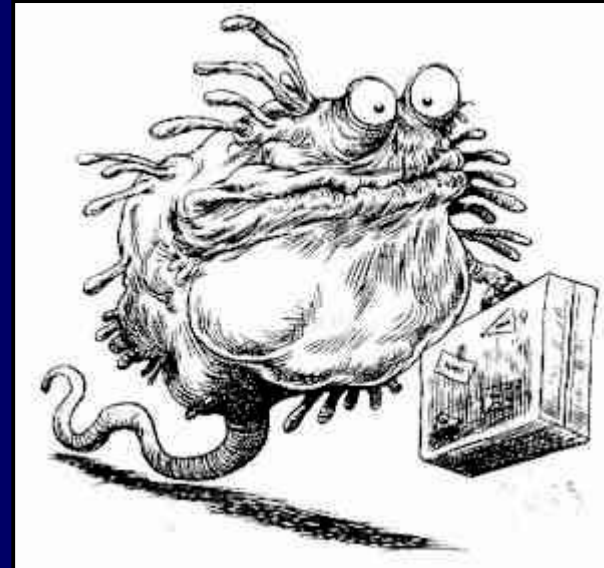
- “ Do not use wound irrigation to reduce the risk of surgical site infection.
- “ Do not use intracavity lavage to reduce the risk of surgical site infection.



Antiseptic and antimicrobial agents before wound closure

Recommendation

Do not use intraoperative skin re-disinfection or topical cefotaxime in abdominal surgery to reduce risk of SSI.



Closure methods

Recommendation

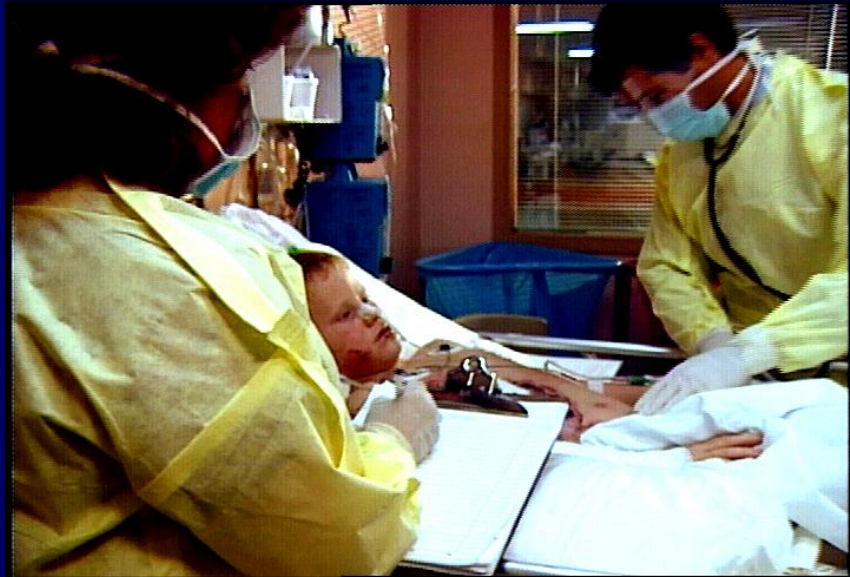
- “ There is insufficient evidence to determine whether suturing or not suturing, the technique used or the material used influences the incidence of SSI
- “ No recommendation can be made.



Wound dressings

Recommendation

“ ...semi permeable film membrane with or without an absorbable island dressing is preferable.... for 48 hours...



Thank you