Standards and Guidance

Reducing the risk of Surgical Site Infection (SSI)

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1. Skin Preparation

1.1 Washing

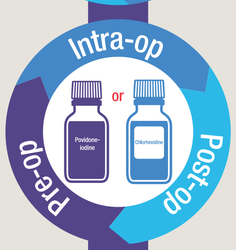
Recommendation

NICE recommends that patients should shower or have a bath (or be assisted to shower, bath or bed bath) using soap, either the day before, or on the day of surgery.[1]

1.2 Hair Removal

Recommendation

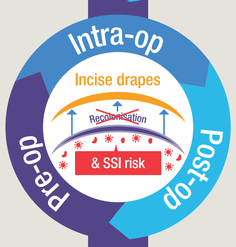
NICE recommends that razors should not be used for hair removal because they increase the risk of SSI. If hair must be removed, then clippers with disposable heads are recommended.[1]



1.3 Skin Antisepsis

Recommendation

Prepare the skin at the surgical site immediately before incision using an antiseptic preparation. Unless contra indicated alcohol-based solution of chlorhexidine is first choice.[1]



1.4 Reducing Skin Recolonisation

Recommendation

NICE recommends that if an incise drape is used, this should be iodophor impregnated unless the patient has an iodine allergy.[1]

1.5 Reducing Nasal Colonisation

Recommendation

NICE recommends to consider applying nasal mupirocin in combination with a chlorhexidine body wash before procedures which are locally determined.

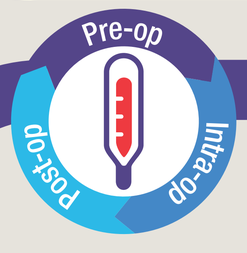
2. Prophylactic Antibiotics

Recommendation

NICE recommends that there must be a local guide to antibiotic prescribing including advice on appropriate surgical prophylaxis.[1]

Surgical prophylaxis should be given intravenously on induction of anesthesia or within 60 mins before the incision is made.[2]

In most circumstances a single dose of antibiotic with a long enough half-life to achieve activity throughout the operation is sufficient.[3]



3. Perioperative Warming

Recommendation

NICE recommends that all patients should be assessed within the hour prior to surgery for their risk of perioperative hypothermia and their temperature measured using a site that produces a direct measure or direct estimate of core temperature.

Active warming should commence on the ward/emergency department at least 30 minutes prior to induction of anaesthesia for all patients (and immediately if their temperature is below 36°C).

The patient's core temperature should be 36°C or above before they are transferred to theatre, unless there is a need to expedite surgery.

Patients having anaesthesia for longer than 30 minutes, or at a higher risk of perioperative hypothermia are warmed from induction of anaesthesia using forced-air warming.

The patient's temperature should be measured and documented before induction of anaesthesia and then every 30 minutes until the end of surgery.

Induction of anaesthesia should not begin unless the patient's temperature is 36.0°C or above.

Intravenous fluids (500 ml or more) and blood products should be warmed to 37°C using a fluid warming device.

Irrigation fluids should be warmed in a thermostatically controlled cabinet to a temperature of 38°C to 40°C.

The patient's temperature should be monitored and documented every 15 minutes in recovery.

The patient should not be transferred to the ward, until their temperature is 36°C or above.[4]

4. Maintaining Asepsis

Recommendation

All pre sterilised instruments must be checked for evidence that they have been sterilised and that the packs are intact.

Instruments should be set up in a clean area, as close to the procedure time as possible. All prepared instruments must be closely observed at all times.

Staff who undertake procedures which require skills such as aseptic technique, must be trained and demonstrate proficiency before being allowed to undertake these procedures independently.[5,6]

5. Surgical Environment

Recommendation

An effective air changing ventilation system should be in operation and regularly monitored.

The doors to the operating theatre should remain closed and traffic in and out of theatre restricted to a minimum to ensure efficiency of the ventilation.

The number of personnel present in theatre should be kept to a minimum.[5]

There is a process to ensure equipment is cleaned prior to admission into the operating theatre.

6. Incision and Wound Management

Recommendation

6.1. Only apply an antiseptic or antibiotic to the wound before closure as part of a clinical research trial.

6.2. NICE recommends that when using sutures, consider using antimicrobial triclosan-coated sutures, especially for paediatric surgery.

6.3. NICE recommends consider using sutures rather than staples to close the skin after caesarean section to reduce the risk of superficial wound dehiscence.

6.4. NICE recommends that surgical incisions should be covered with an appropriate interactive dressing at the end of the operation.[1]

7. Surveillance

Recommendation

The risk of SSI should be monitored using a standardised surveillance methodology to provide feedback to surgeons and the surgical team about the quality of infection prevention in the operating theatre.

Monitoring of infection rates is essential to provide patients with accurate information about the risk of SSI associated with the operation.[6,7]

REFERENCES

1 NICE (2019)NICE guideline125.Surgical site infections: prevention and treatment nice.org.uk/guidance/ng125
2 Bratzler et al (2013)Clinical practice guidelines for antimicrobial prophylaxis in surgery. Am J Health-Syst Pharm—Vol 70 Feb 1, 2013 195-283.
3 Scottish Intercollegiate Guidelines Network(2008), Antibiotic prophylaxis in surgery. A national clinical guideline.
4 NICE (2008 - updated 2016) Clinical Guideline 65 – Inadvertent perioperative hypothermia – The management of inadvertent perioperative hypothermia in adults.
5 Association for Perioperative Practice (2016) Standards and Recommendations for Safe Perioperative Practice. 3rd Ed.
6 DH (2010) The Health and Social Care Act 2008.Code of Practice on the prevention and control of infections and related guidance.
7 Public Health England (June 2013). Protocol for the Surveillance of Surgical Site Infection, Surgical Site Infection Surveillance Service Version 6.

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