**Surgical site infection investigation tool**

For background information on this tool, go to: [www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/publications-and-resources/publication/4399/](http://www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/publications-and-resources/publication/4399/)

Explanations of abbreviations used in this tool are given at the end.

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| **Patient information** | | | | | | | | | | | | |
| NHI: |  | | | | | | | *Insert patient sticker  here if available.* | | | | |
| Gender: | M | | F | Other | | | |
| Date of birth: |  | | | | | | |
| **Admission/discharge** | | | | | | | | | | | | |
| Was the patient seen/phoned by pre-admission clinic/staff? | | | | | | | | Y  N | | | | |
| Date of admission (for surgery): | | | | | | | | / / | | | | |
| Date of discharge: | | | | | | | | / / | | | | |
| Date of death (if applicable): | | | | | | | | / / | | | | |
| Date of re-admission: | | | | | | | | / / | | | | |
| Transfer from another acute care hospital? | | | | | | | | Y  N | | | | |
| Pre-operative length of stay (primary admission): | | | | | | | |  | | | | |
| Postoperative length of stay (primary admission): | | | | | | | |  | | | | |
| **Infection details** | | | | | | | | | | | | |
| Type of SSI: | | Superficial | | | Deep | | | | Organ space | | | Not stated |
| Organisms identified: | | 1 | | | | | 2 | | | | 3 | |
| Date SSI symptoms identified: | |  | | | | Date SSI confirmed by surgical team: | | | |  | | |
| ACC treatment claims process initiated? | | Y  N  Unknown | | | | SAC rating: | | | | 1  2  3  4 | | |

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| **Patient risk factors prior to surgery** | | | | | **(Indicates increased risk)** | | **(Indicates neutral risk)** |  | | |
| Revision surgery: | | | | | Y | | N | Unknown | | |
| Prior infection in joint: | | | | | Y | | N | Unknown | | |
| ASA score > 2 ASA score: | | | | | Y | | N | Unknown | | |
| Infection at distal sites at time of surgery:  Site(s): | | | | | Y | | N | Unknown | | |
| Age > 60 years: | | | | | Y | | N | Unknown | | |
| Diabetes type I/IDDM: | | | | | Y | | N | Unknown | | |
| Diabetes type II/NIDDM: | | | | | Y | | N | Unknown | | |
| HbA1c ≥ 53 mmol/mol prior to surgery: | | | | | Y | | N | Unknown | | |
| Patient smokes (within 1 month prior to surgery): | | | | | Y | | N | Unknown | | |
| Obesity – BMI > 30:  30‒34.9   35‒40  > 40  Weight (in kg): | | | | | Y | | N | Unknown | | |
| *S. aureus* colonisation  MSSA   MRSA | | | | | Y | | N | Unknown | | |
| Skin condition – active or poorly controlled:  Psoriasis  Dermatitis  Boils  Other  Site and extent: | | | | | Y | | N | Unknown | | |
| Immunosuppression (eg, steroids, cytotoxic drugs): | | | | | Y | | N | Unknown | | |
| Any other risk factors for SSI identified?  If yes, was there a specific plan put in place, eg, referral, deferment of surgery?  Y  N  Describe: | | | | | Y | | N | Unknown | | |
| **Pre-operative anti-staphylococcal bundle** | | | | | | | | | |
| Skin decolonisation compliance: | No bundle | Full  (all doses) | Partial (some  doses) | None  (no doses) | | N/A (skin  not part of bundle) | | | Unknown  (not documented) |
| Nasal decolonisation compliance: | No bundle | Full  (all doses) | Partial (some  doses) | None  (no doses) | | N/A  (nasal not  part of bundle) | | | Unknown  (not documented) |

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| **Procedure** | | | | | | | | | | | | | |
| Date of procedure: |  | | | | | Theatre number: | | |  | | | | |
| Emergency procedure? | Y | N | | Unknown | | | | | | | | | |
| Procedure description: |  | | | | | | | | | | | | |
| Surgeon grade: | Consultant | | | | Specialty  registrar | | Locum consultant | | | Locum registrar | | | Other |
| Surgeon name: |  | | | | | | | | | | | | |
| Anaesthetist name: |  | | | | | | | | | | | | |
| Scrub team (nurse/leader) name: |  | | | | | | | | | | | | |
| Wound class: | Clean | | Clean‒contaminated | | | | Contaminated | | | | Dirty or infected | | |
| Hair removal: | Clipping | | Shaving | | | | None | | | | Unknown | | |
| Dose 2 g cephazolin:  <120 kg | Y | N | | Unknown | | | If no, what antibiotic was given? | | | | | | |
| >120 kg: 3 g cephazolin | Y | N | | Unknown | | | If no, what antibiotic was given? | | | | | | |
| Was operation duration  > 4 hours?  If yes was an additional dose of antibiotic given?  Y  N  N/A | Y | N | | N/A | | | If yes, what dosage of antibiotic was given? | | | | | | |
| Additional vancomycin for MRSA: | Y | N | | Unknown | | |  | | | | | | |
| Prophylaxis appropriate for antibiotic allergy: | Y | N | | N/A | | |  | | | | | | |
| Timing 0‒60 minutes prior to knife-to-skin (KTS): | Y | N | | Unknown | | | If no:  > 60 minutes prior to KTS  After KTS | | | | | | |
| Skin prep – alcohol-based CHG or povidone iodine: | Y | N | | Unknown | | | Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| Antibiotic cement used? | | | | | | | | Y | N | | | Unknown | |
| Antimicrobial (eg, triclosan) sutures used? | | | | | | | | Y | N | | | Unknown | |
| Laminar air flow used? | | | | | | | | Y | N | | | Unknown | |
| Tourniquet used?  If yes, was it after antibiotic prophylaxis?  Y  N  Unknown | | | | | | | | Y | N | | | Unknown | |
| Prolonged duration of surgery? (≥ 2 hours for hip and knee surgery) | | | | | | | | Y | N | | | Unknown | |
| Abnormal temperature (> 38.0°C or ≤ 36.0°C) between  pre-operative and recovery? | | | | | | | | Y | N | | | Unknown | |
| Was there >1.5 L blood loss?  If yes, was another dose of ABs given?  Y  N  Unknown | | | | | | | | Y | N | | | Unknown | |
| Any unusual intra-operative incidents (documented variations from the norm)?  If yes, what occurred? | | | | | | | | Y | N | | | Unknown | |

| **Postoperative** |  |  |  | **Comments** |
| --- | --- | --- | --- | --- |
| O2 saturation < 80% intra-operatively or up to 6 hours postoperatively: | Y | N | Unknown |  |
| Renal function:  eGFR > 90 = normal  Creatinine (µmol/L), adults:  Males 60‒105  Females 45‒90 | Poor or  Acute renal failure postop | Normal | Unknown | Test used:  GFR  Creatinine |
| Blood glucose control checked? | Y  < 11 mmol/L or  ≥ 11 mmol/L | N | Unknown | If checked, state patient’s highest blood glucose level for postop day 1: |
| DVT prophylaxis administered? | Y | N | Unknown | If yes, what was used? |
| Did the patient receive postoperative antibiotic prophylaxis in accordance with standard practice/guidelines?  Maximum 3 doses | Y | N | Unknown |  |
| Any postoperative interventions after surgery and before infection was identified (eg, washouts or aspiration)? | Y | N | Unknown |  |
| **Postoperative wound care** | | | | |
| What primary dressing was used? | | Time to first COD: | | |
| Excess postop oozing requiring dressing change/reinforcement? | Y | N | Unknown |  |
| Discharge written instructions given? | Y | N | Unknown |  |
| Any other relevant factors identified? |  | | | |

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| **Post discharge** | |  |  |  |  |
| Was the patient discharged to aged residential care, a rehabilitation unit or to another care facility? | | Y | N | Unknown |  |
| Was the patient referred to district nurses or GP for dressing changes? | | Y | N | Unknown | Please note details: |
| Did the patient receive any antibiotics for another type of infection in the community before SSI diagnosis? | | Y | N | Unknown | If yes, specify the type of infection and antibiotics: |
| Was the patient initially treated by the GP for a wound infection before re-admission? | | Y | N | Unknown |  |
| Was there a re-admission not related to an SSI? | | Y | N | Unknown |  |
| **Key observations and conclusions** (What were your findings? Are there any improvements that can be made? Where will this data be taken for discussion?) | | | | |
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| **Action points identified** | **Action plan required?** | **By when?** | **By whom?** | **Sign when**  **completed** |
|  | Y  N |  |  |  |
|  | Y  N |  |  |  |
|  | Y  N |  |  |  |
|  | Y  N |  |  |  |

Abbreviations used in this tool:

BMI body mass index

COD change of dressing

CHG chlorhexidine gluconate

DVT deep vein thrombosis

GFR glomular filtration rate

HbA1c glycated haemoglobin (test used to diagnose pre-diabetes and type II diabetes)

IDDM insulin-dependent diabetis mellitus

KTS knife-to-skin

NHI National Health Index

NIDDM non-insulin dependent diabetes mellitus

MRSA methicillin-resistant *Staphylococcus aureus*

MSSA methicillin-sensitive *Staphylococcus aureus*

O2 oxygen

*S. aureus Staphylococcus aureus*

SSI surgical site infection



Form developed by the Health Quality & Safety Commission, December 2021 (updated June 2022). Downloadable at [www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/publications-and-resources/publication/4399/](http://www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/publications-and-resources/publication/4399/)