**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 [ ]  OtherSite 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 [ ]  NDescribe: | [ ]  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 | [ ]  Specialtyregistrar | [ ]  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 = normalCreatinine (µmol/L), adults:Males 60‒105Females 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/)