

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/

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

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

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

Procedure description:					
Surgeon grade:	<input type="checkbox"/> Consultant	<input type="checkbox"/> Specialty registrar	<input type="checkbox"/> Locum consultant	<input type="checkbox"/> Locum registrar	<input type="checkbox"/> Other
Surgeon name:					
Anaesthetist name:					
Scrub team (nurse/leader) name:					
Wound class:	<input type="checkbox"/> Clean	<input type="checkbox"/> Clean-contaminated	<input type="checkbox"/> Contaminated	<input type="checkbox"/> Dirty or infected	
Hair removal:	<input type="checkbox"/> Clipping	<input type="checkbox"/> Shaving	<input type="checkbox"/> None	<input type="checkbox"/> Unknown	
Dose 2 g cephazolin: <120 kg	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	If no, what antibiotic was given?	
>120 kg: 3 g cephazolin	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	If no, what antibiotic was given?	
Was operation duration > 4 hours? If yes was an additional dose of antibiotic given? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A	If yes, what dosage of antibiotic was given?	
Additional vancomycin for MRSA:	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown		
Prophylaxis appropriate for antibiotic allergy:	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A		
Timing 0–60 minutes prior to knife-to-skin (KTS):	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	If no: <input type="checkbox"/> > 60 minutes prior to KTS <input type="checkbox"/> After KTS	
Skin prep – alcohol-based CHG or povidone iodine:	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	<input type="checkbox"/> Other _____	
Antibiotic cement used?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown		
Antimicrobial (eg, triclosan) sutures used?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown		
Laminar air flow used?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown		
Tourniquet used? If yes, was it after antibiotic prophylaxis? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unknown	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown		

Prolonged duration of surgery? (≥ 2 hours for hip and knee surgery)	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Abnormal temperature ($> 38.0^{\circ}\text{C}$ or $\leq 36.0^{\circ}\text{C}$) between pre-operative and recovery?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Was there >1.5 L blood loss? If yes, was another dose of ABs given? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unknown	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Any unusual intra-operative incidents (documented variations from the norm)? If yes, what occurred?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Postoperative				Comments
O ₂ saturation $< 80\%$ intra-operatively or up to 6 hours postoperatively:	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Renal function: eGFR > 90 = normal Creatinine ($\mu\text{mol/L}$), adults: Males 60–105 Females 45–90	<input type="checkbox"/> Poor or <input type="checkbox"/> Acute renal failure postop	<input type="checkbox"/> Normal	<input type="checkbox"/> Unknown	Test used: <input type="checkbox"/> GFR <input type="checkbox"/> Creatinine
Blood glucose control checked?	<input type="checkbox"/> Y <input type="checkbox"/> < 11 mmol/L or <input type="checkbox"/> ≥ 11 mmol/L	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	If checked, state patient's highest blood glucose level for postop day 1:
DVT prophylaxis administered?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	If yes, what was used?
Did the patient receive postoperative antibiotic prophylaxis in accordance with standard practice/guidelines? Maximum 3 doses	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Any postoperative interventions after surgery and before infection was identified (eg, washouts or aspiration)?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Postoperative wound care				
What primary dressing was used?		Time to first COD:		
Excess postop oozing requiring dressing change/reinforcement?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	

Postoperative				Comments
Discharge written instructions given?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Any other relevant factors identified?				

Post discharge				
Was the patient discharged to aged residential care, a rehabilitation unit or to another care facility?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Was the patient referred to district nurses or GP for dressing changes?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	Please note details:
Did the patient receive any antibiotics for another type of infection in the community before SSI diagnosis?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> 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?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown	
Was there a re-admission not related to an SSI?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> 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
	<input type="checkbox"/> Y <input type="checkbox"/> N			
	<input type="checkbox"/> Y <input type="checkbox"/> N			

	<input type="checkbox"/> Y <input type="checkbox"/> N			
	<input type="checkbox"/> Y <input type="checkbox"/> N			

Abbreviations used in this tool:

BMI	body mass index
COD	change of dressing
CHG	chlorhexidine gluconate
DVT	deep vein thrombosis
GFR	glomerular filtration rate
HbA1c	glycated haemoglobin (test used to diagnose pre-diabetes and type II diabetes)
IDDM	insulin-dependent diabetes mellitus
KTS	knife-to-skin
NHI	National Health Index
NIDDM	non-insulin dependent diabetes mellitus
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>
MSSA	methicillin-sensitive <i>Staphylococcus aureus</i>
O ₂	oxygen
<i>S. aureus</i>	<i>Staphylococcus aureus</i>
SSI	surgical site infection



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www.hqsc.govt.nz/our-programmes/infection-prevention-and-control/publications-and-resources/publication/4399/