



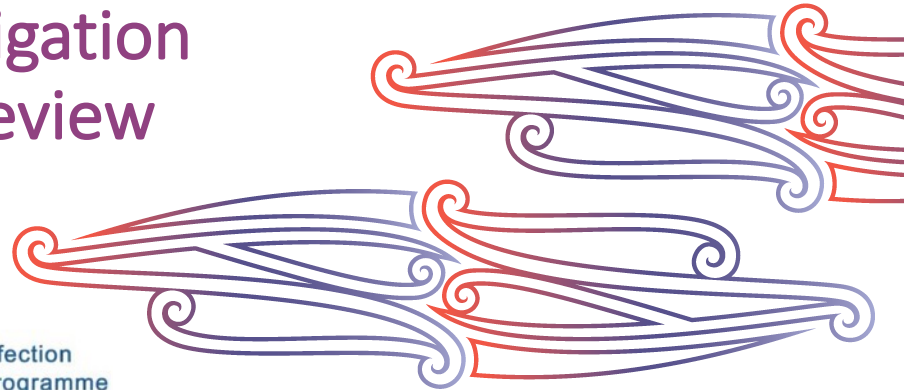
HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND
Kupu Taurangi Hauora o Aotearoa

SSI improvement programme meeting

Surgical site infection
(SSI) investigation
quarterly review

28 July 2022

SSII Surgical Site Infection
Improvement Programme



Opening karakia

E te huinga
Whāia te mātauranga, kia mārama
Unuhia te anipā,
te nguha, kia mahea
Kia whai take ngā mahi katoa
Tū māia, tū kaha
Aroha atu, aroha mai
Tātou i a tātou katoa
Hui e tāiki e

For this gathering
seek knowledge, for understanding
draw out the anxiety
and uncertainty, clear it away
have purpose in all that you do
stand tall, be strong
let us show respect
for each other.
It is complete



Agenda

Welcome and introductions
Opening karakia

Nikki
Nikki

The SSI investigation process

Amanda
Michelle

Case study

Ruth

Trends in SSI

Ruth

Evidence for *staphylococcus* decolonisation

Arthur

Update to online resources

Ruth

Closing karakia

Nikki

SSI investigation process for light surveillance

- Districts that have moved to light surveillance are required to undertake a detailed review of orthopaedic SSIs, prioritising deep and organ-space infections

Surgical site infection investigation tool

For background information on this tool, go to: www.hpa.org.uk/our-programmes/infection-prevention-and-control/publications-and-resources/publication4439/
Explanations of abbreviations used in this tool are given at the end.

Patient information		Insert patient sticker here if available.
NHI:		
Gender:	<input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Other	
Date of birth:		

Admission/discharge	
Was the patient seen/visited 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:	<input type="checkbox"/> Y <input type="checkbox"/> N
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

Surgical site infection investigation tool (print version)

1

SSI investigation process for light surveillance

- We recommend that superficial SSIs that lead to readmission or further treatment are also investigated

Surgical site infection investigation tool

For background information on this tool, go to: www.hpsc.gov/our-programmes/infection-prevention-and-control/publications-and-resources/publication4399

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

Patient information	
NHI:	Insert patient sticker here if available.
Gender: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Other	
Date of birth:	

Admission/discharge	
Was the patient seen/phonned 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

Surgical site infection investigation tool (print version)

1

SSI investigation process for light surveillance

- For those who have continued with full surveillance, use of the SSI investigation tool is optional but encouraged

Surgical site infection investigation tool

For background information on this tool, go to: www.hpac.gov.au/our-programmes/infection-prevention-and-control/publications-and-resources/publication4399/
Explanations of abbreviations used in this tool are given at the end.

Patient information	
NHI:	Insert patient sticker here if available.
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

Surgical site infection investigation tool (print version)

1

SSI champion responsibilities

1. Complete the SSI investigation at any time using the Commission's SSI investigation tool
2. Summarise the SSI investigations on the Commission's quarterly Excel summary report sheet



Completing the quarterly SSI summary report

Key fields

1. National monitor form ID (this is not the NHI)
2. Date of SSI
3. Procedure type
4. Type of infection
5. Key findings
6. Key action points



Example of a quarterly report

Surgical site infection investigation form quarterly summary						
DHB Select from drop down list	Please select					
Date/Quarter	Dec 21-Mar 22					
Case	National Monitor Form ID	Date of SSI	Procedure Type	Type of infection	Key findings	Key action points
Case 1	xxxx	6-Feb-22	Knee	Deep	ASA 3, smoker, hx peripheral ulcers anti-staph bundle not completed	Follow up why anti-staph bundle not completed
Case 2	xxxx	20/02/22	Hip	Deep	smoker,IVDU, ASA 3 anti-staph bundle not completed	Follow up why anti-staph bundle not completed
Case 5	xxxx	28/02/22	Knee revision	Superficial	ASA 3, High BMI anti-staph bundle not completed	Follow up why anti-staph bundle not completed

Using the SSI investigation form in ICNet

Michelle Taylor to demonstrate



Submitting the quarterly summary report

- Submit quarterly summary reports on 1 April, 1 July, 1 October and 1 January



Submitting the quarterly summary report

- Submit data on SSIs investigated in the three months before the meeting, eg, for July, submit infections investigated in April, May or June



Submitting the quarterly summary report

- Meetings to discuss the findings of these summary reports are held in April, July, October and January to monitor trends and discuss actions and quality improvement measures with peers.



Resources

- Visit the IPC light surveillance web page on the Commission website
 - tool, forms and resources
- New ‘A guide to implementing light surveillance for the orthopaedic SSIIP’
- Contact us on:
SSIIP@hqsc.govt.nz

Mātai ā-rama

Light surveillance

The orthopaedic Surgical Site Infection Improvement Programme (SSIIP) has been a successful national programme since 2011. Collection of data started in 2013 with the median national rate of orthopaedic surgical site infections (SSIs) decreasing by 25 percent by August 2015. Compliance with the recommended evidence-based interventions (surgical antibiotic prophylaxis and skin preparation) has been sustained at a high rate since this decrease in SSI rate.

In July 2019, the Commission released a discussion paper seeking feedback about proposed changes to data collection requirements for orthopaedic procedures and options for inclusion of other procedures. This was in response to recommendations made by an external evaluation of the SSIIP programme in which the feedback from the sector was a preference to reduce time spent on data collection and to have more time to identify contributing factors of the SSI cases.

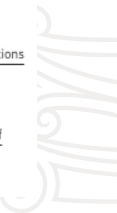
At its February 2020 meeting the Commission's Board approved the option for DHBs to transition to light surveillance for the orthopaedic SSIIP. Light surveillance requires all data collection fields to be completed for SSI cases only rather than for all procedures, which now only need 10 fields of data recorded. This will significantly reduce the time spent on data collection. Health Districts can choose to maintain full surveillance (status quo) or transition to light surveillance.

Districts that move to a 'light surveillance' method need to undertake a more detailed review on the deep and organ space SSIs. The 'surgical site infection (SSI) investigation tool' should be used to complete a detailed review of cases. To assist with these investigations, a [summary of practice points related to an SSI investigation](#) has been provided by Dr Arthur Morris, Clinical lead for the SSIIP. Each quarter a summary report of SSI cases must be submitted to the Commission.

For details on undertaking light surveillance, including instructions on how to create and upload a CSV data file, refer to the [light surveillance implementation guide](#) or email us at SSIIP@hqsc.govt.nz.

Related resources

- [Resource: A guide to implementing light surveillance for the orthopaedic SSIIP](#)
- [Resource: Discussion paper: proposal to change data collection requirements for orthopaedic procedures and options for inclusion of other procedures \(feedback closed\)](#)
- [Resource: Surgical site infection SSI investigation tool](#)
- [Resource: Using the Health Quality & Safety Commission Surgical Site Infection investigation tool - a summary of practice points from Dr Arthur Morris, clinical lead, Health Quality & Safety Commission](#)
- [Resource: SSIIP investigation form - quarterly summary](#)



Case study

- 70-year-old man
- Superficial SSI following revision of left total knee replacement
 - Discharged day 3 after surgery
 - Readmitted 11 days post-op with signs and symptoms of infection
 - SSI confirmed 7 days after readmission by surgical team
- *Staphylococcus aureus*



SSI risk factors

Patient risk factors prior to surgery	(Indicates increased risk)	(Indicates neutral risk)	
Revision surgery:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown
Prior infection in joint:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
ASA score > 2 ASA score: 3	<input checked="" 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 checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
Age > 60 years:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> Unknown
Diabetes type I/IDDM:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
Diabetes type II/NIDDM:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
HbA1c ≥ 7% prior to surgery:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
Patient smokes (within 1 month prior to surgery):	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
Obesity – BMI > 30: <input type="checkbox"/> 30–34.9 <input type="checkbox"/> 35–40 <input checked="" type="checkbox"/> > 40	<input checked="" 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 checked="" 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 checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
Immunosuppression (eg, steroids, cytotoxic drugs):	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown
Any other risk factors 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 checked="" type="checkbox"/> N	<input type="checkbox"/> Unknown

ASA, American Society of Anaesthesiologists; BMI, body mass index; IDDM, insulin-dependent diabetes mellitus; MRSA, methicillin-resistant *S. aureus*; MSSA, methicillin-susceptible *S. aureus*; NIDDM, non-insulin-dependent diabetes mellitus.

SSI risk factors

- Revision surgery
- ASA score of 3
- Age >60 years
- BMI >40



Risk factors not identified

No problems identified with:

- procedure
- post-op clinical management, eg, oxygen saturation, blood loss, etc.
- wound management prior to discharge
- discharge process (given written wound instructions and discharged to own home).



S. aureus factors

- Nil *S. aureus* colonisation before surgery
- No compliance with nasal or skin decolonisation doses
- But *S. aureus* infection



SSI summary findings

Pre-operative anti-staphylococcal decolonisation

- Not documented
- Not used/given

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)

Quality improvement

Problem

- Staphylococcal decolonisation information not completed in theatre/post-anaesthetic care unit (PACU)
- Change to electronic forms

Action

- Infection prevention and control (IPC) work with PACU to ensure bundle compliance information is captured



Group discussion point

- How does your district capture *S. aureus* decolonisation data?
- Does this work?
- If not, why not?
- How could it be improved?



Systematic review and meta-analysis of *S. aureus* SSI prevention in orthopaedic and cardiac surgery

Dr Arthur Morris, Clinical lead
(presentation available on request
from ssiip@hqsc.govt.nz)

Website resources – update

Light surveillance guide



← **Mate wāhi hāparapara**
Surgical site infections

Mātai ā-rama
Light surveillance

Mātai ā-rama Light surveillance

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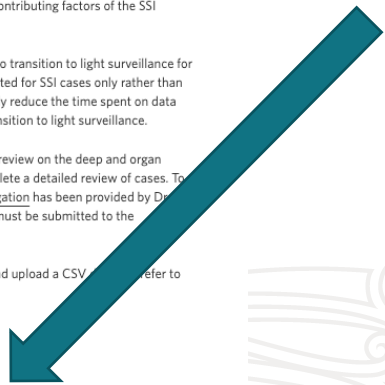
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Related resources

- [Resource: A guide to implementing light surveillance for the orthopaedic SSIIP](#)
- [Resource: Discussion paper: proposal to change data collection requirements for orthopaedic procedures and options](#)



A guide to implementing light surveillance for the orthopaedic SSIIP

18th July, 2022

Infection prevention and control

Multimedia

This document outlines the process for undertaking 'light surveillance' for the orthopaedic SSIIP. It supplements the [Orthopaedic surgery implementation manual](#).

Contact the Health Quality & Safety Commission (the Commission) at SSIIP@hqsc.govt.nz if you would like to discuss changing to light surveillance. The IPC team can support you with the transition and determine the start date for your organisation.

Attachments



[A guide to implementing light surveillance for the orthopaedic SSIIP - July 2022](#)

PDF | 288 KB



[A guide to implementing light surveillance for the orthopaedic SSIIP - July 2022](#)

DOCX | 407 KB

Accessing resources from the dashboard

Definitions and resources

Surgical antimicrobial prophylaxis intervention guidelines

Correct antimicrobial choice and dose
 First line of choice for adult orthopaedic surgery is a $\geq 2g$ dose of cefazolin. A $\geq 1.5g$ dose of cefuroxime is an acceptable alternative (since Q1, 2015).

The QSM compliance target for correct antimicrobial choice and dose is 95%.
 Clindamycin (600mg) or vancomycin (1g up to 70kg and then 15mg/kg for patients weighing more than 70kg, to a maximum of 2g) should be reserved as alternative agents in the event of allergy to β -lactam agents.

Correct antimicrobial timing
 Antimicrobial prophylaxis is administered as a single dose 0 to 60 minutes before knife to skin (KTS).

The QSM compliance target for correct antimicrobial timing is 100% for primary procedures.

In most revision procedures, prophylaxis should be given 'on time', ie, 0-60 minutes before KTS.
 If the second side of a bilateral procedure is commenced more than an hour after the initial dose of prophylaxis a second dose is required to provide the second side with the same level of protection as the first. If vancomycin has been used no second dose is required.

Correct antimicrobial duration
 Antimicrobial prophylaxis is discontinued within 24 hours after surgery end time.

Three doses of cefazolin or cefuroxime administered eight hours post-operatively is accepted as discontinuation within 24 hours of surgery.
 Exposure to antimicrobials is associated with a greater risk of subsequent colonisation with resistant organisms.

Skin antiseptics preparation intervention guidelines
 An alcohol based antiseptic solution (at least 70%) containing either chlorhexidine gluconate or povidone-iodine antiseptic is used to prepare the incision area for all procedures.

Alcohol based chlorhexidine and povidone-iodine antiseptic solutions significantly reduce the likelihood of surgical site colonisation and maximise the rapidity, potency and duration of bactericidal activity when compared to other solutions.

Data collected for this intervention is no longer reported as a QSM (from 1 July 2016) due to consistent high compliance, however DHBs continue to collect, analyse and report on this data.

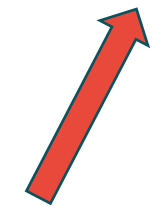
Definitions for infection
 The definitions of SSI being utilised for this project are those utilised by The National Healthcare Safety Network (CDC, 2018).

For further information on the definitions for SSI refer to the orthopaedic surgery implementation manual.

Superficial SSI occurs within 30 days after the procedure (day 1 = day of procedure).
 Deep and organ/space SSI occurs within 90 days after the procedure (day 1 = day of procedure).

- Resources
- Orthopaedic implementation manual
- FAQs
- Orthopaedic VLAD report
- SSI investigation tool
- Anti-staph bundle
- Patient education brochure

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- Patient education brochure
- Patient education video
- Other resources
- Journal articles



Conclusion

- Questions?
- Comments?
- Next meeting

Request for SSI scenarios

Please submit scenarios for orthopaedic or cardiac SSIs that could be used for future training to:

SSIIP@hqsc.govt.nz

Closing karakia

Kua mutu a tātou mahi
Ka tae te wā
mō te whakairi te kete
I te kete kōrero,
I te kete whakaaro
Hei tiki atu anō mā tatou
Tauwhirotia mai mātou katoa
Ō mātou hoa
Ō mātou whānau
Āio ki te Aorangi.
Hui e tāiki e.

Our work has finished
the time has arrived
to gather one's thoughts in the basket
that contains discussion
and concepts
that we may use it again in the future
Protect us all
our colleagues
our families
Peace to the universe.
It is complete.

