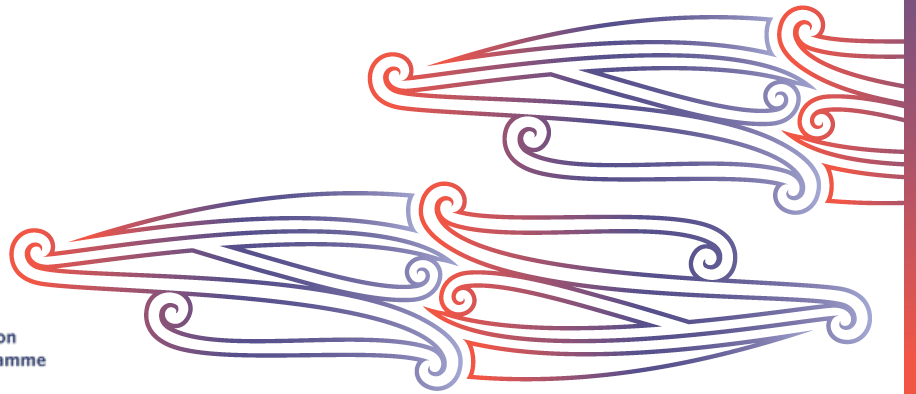
Health Quality & Safety Commission New Zealand
Kupu Taurangi Hauora o Aotearoa

Surgical site infection improvement programme

Quarterly surgical site infection investigation review meeting



SSII Surgical Site Infection Improvement Programme

8 February 2023

Opening karakia

E te huinga	For this gathering
Whāia te mātauranga, kia mārama	seek knowledge, for understanding
Unuhia te anipā,	draw out the anxiety
te nguha, kia mahea	and uncertainty, clear it away
Kia whai take ngā mahi katoa	have purpose in all that you do
Tū māia, tū kaha	stand tall, be strong
Aroha atu, aroha mai	let us show respect
Tātou i a tātou katoa	for each other.
Hui e tāiki e	It is complete

Agenda

Welcome and introductions Opening karakia	Amanda Wood Jeanette Bell
Case study: SSI case	Amy Leese
Case study: *Pseudomonas aeruginosa* outbreak	Marina Shields
Presentation: A spike in adult cardiac SSI cases, what did we do next?	Bindu Francis and Mai Le
Updated orthopaedic implementation manual Povidone iodine/alcohol skin antisepsis product	Ruth Barratt
Questions and discussion Closing karakia	Amanda Wood Jeanette Bell

Case study 1

Amy Leese, registered nurse,
infection prevention and control
Te Pae Hauora o Ruahine o Tararua | MidCentral

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Case study 1

- 80-year-old female
- Deep surgical site infection (SSI) post-revision of left hip hemiarthroplasty to a total hip arthroplasty
  - Left neck of femur fracture
  - Complicated by recurrent dislocations
  - Revised to a total hip replacement
- Subsequent infection with *Staphylococcus epidermidis*

Risk factors

- Multiple previous surgeries
- ASA score = 3
- Age > 60
- Type 2 diabetes
- Cognitively impaired – noticeable increased delirium
- Poor intravenous access – SSI treated with oral antibiotics

Case study 2

Marina Shields, infection and control nurse specialist
Te Whatu Ora – Health New Zealand Lakes

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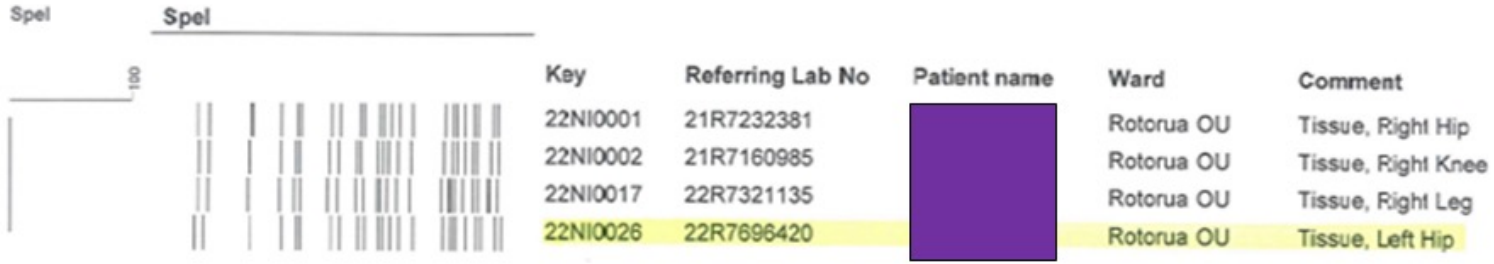
Case study 2: *Pseudomonas aeruginosa* outbreak

- Four cases of ciprofloxacin-resistant *P. aeruginosa* identified in operating unit (OU) over a 3-month period
- Samples sent to ESR for whole-genome sequencing
  - confirmed to have ‘indistinguishable’ genotype

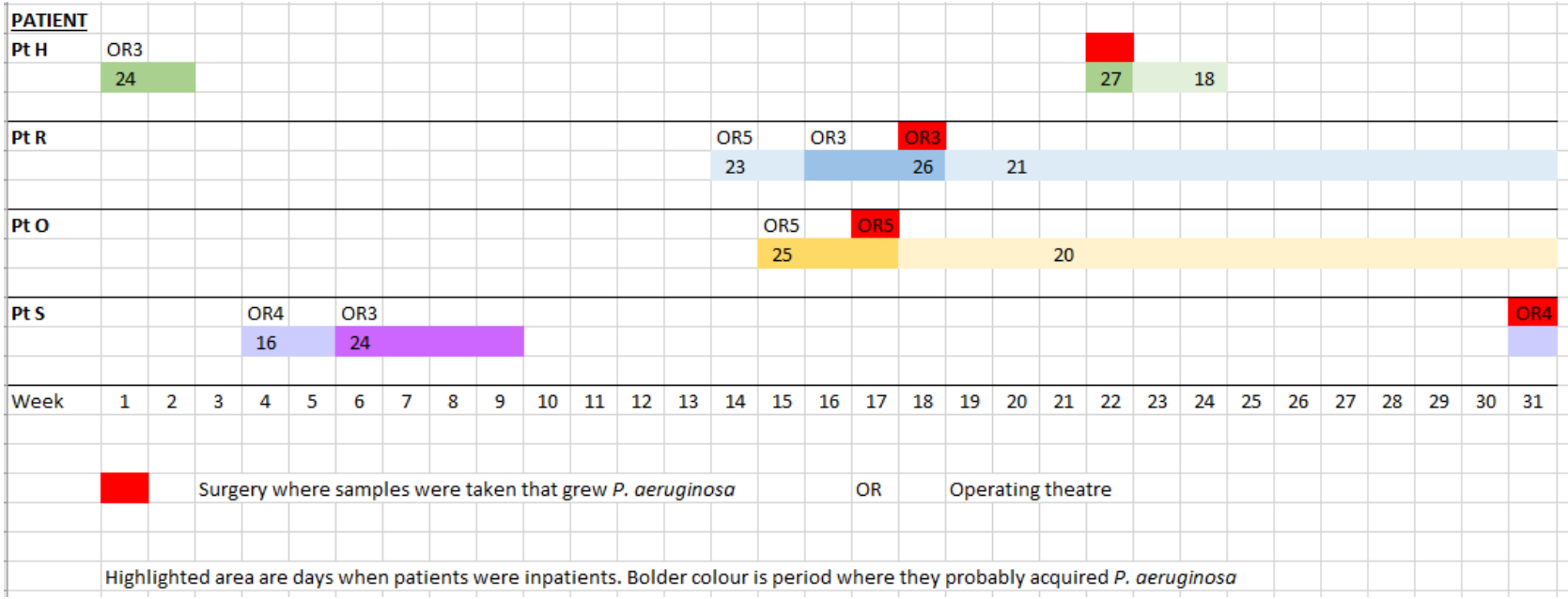


Key	Referring Lab No	Patient name	Ward	Comment
22NI0001	21R7232381		Rotorua OU	Tissue, Right Hip
22NI0002	21R7160985		Rotorua OU	Tissue, Right Knee
22NI0017	22R7321135		Rotorua OU	Tissue, Right Leg
22NI0026	22R7696420		Rotorua OU	Tissue, Left Hip

Investigations

- Identification of further cases – no additional patients with identical genotype
- Review of clinical records, TrendCare data and iPM for commonalities
- Only two of the patients had overlapping admission times
- No clear link between surgeon/theatre staff/ward staff

Timeline


PATIENT
Pt H
OR3
24
27
18
Pt R
OR5
OR3
OR3
23
26
21
Pt O
OR5
OR5
25
20
Pt S
OR4
OR3
OR4
16
24
Week
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Surgery where samples were taken that grew P. aeruginosa
OR
Operating theatre
Highlighted area are days when patients were inpatients. Bolder colour is period where they probably acquired P. aeruginosa

Investigations (cont)

Environmental sampling:

- Ward environment, sinks, showers, operating theatres faucets, drains and sinks
- Water samples from OU and ward
- Drain from operating theatre 3 (OR3) grew *P. aeruginosa*
- OU 17 and 19 grew *P. aeruginosa* with same genotype

Investigations (cont)

Possible contributing factors:

- Suboptimal hand hygiene compliance in OU (78 percent)
- Theatre observation: back splash observed at OR sink
- Centre tap in OR 4/5 sink is positioned directly above the drain

Hypothesis

- Cross infection in OU between the two patients with overlapping admissions due to suboptimal hand hygiene and contaminated surfaces/equipment
- Regurgitation of biofilm from drain sites
- Proximity of hand basins to patient in OU rooms
- Contamination via splash back from OR3 sink at time of preparation for surgery

Actions

Environmental:

- Terminal clean of OU and theatres
- Increased drain and sink cleaning using Hyposol

Actions (cont)

Staff factors:

- OU staff education regarding *P. aeruginosa.* Hand hygiene training
- Teaching session with cleaners
- Education for domestic staff re: glove use. Addition of hand sanitiser to meal trolleys

Actions (cont)

Progress measurement:

- ICNet report to identify possible healthcare-associated infection involving *P. aeruginosa*
- Audit cleaning practices three-monthly

Case study 3

Mai Le and Bindu Francis
Infection prevention and control nurse specialists
Te Toka Tumai Auckland

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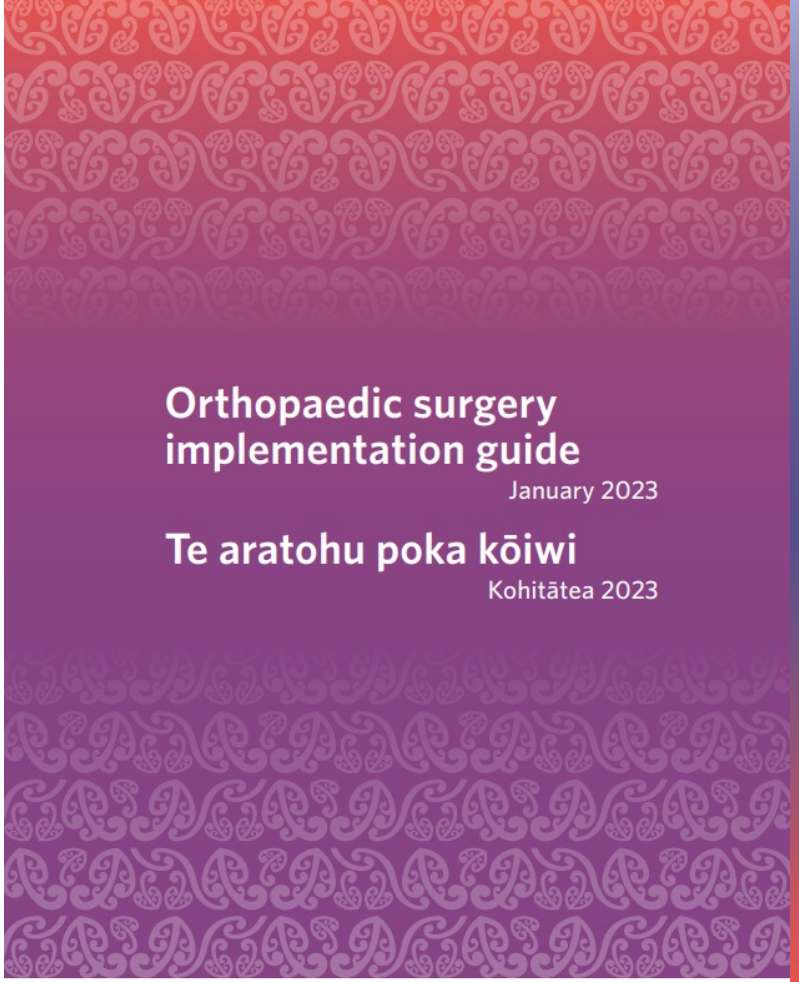
A spike in adult cardiac surgical site infection cases….
What did we do next?

[Slide set available on request from the Commission's infection prevention and control team]

Orthopaedic guide 2023

- Now available
  - Published on website
  - Hard copy for each district team
- Main updates:
  - Layout
  - Light surveillance
  - References

https://www.hqsc.govt.nz/assets/Our-work/Improved-service-delivery/Safe-surgery/Publications-resources/Ortho_ImplementationGuide_Jan23_Final-v2.pdf



SSII Surgical Site Infection Improvement Programme
Te Kāwanatanga o Aotearoa New Zealand Government
Health Quality & Safety Commission New Zealand

Contents

4 Process | Te tukanga .....
Data collection .....
Data entry .....
Data submission .....
5 SSI case finding | Ngā kitenga .....
Identifying SSI cases .....
6 Defining SSIs | Te tautohu i ngā SSI .....
1. Superficial incisional SSI .....
2. Deep incisional SSI .....
3. Organ/space SSI .....
Resolving possible cases of SSI .....
7 Assurance | Whakataurangi .....
Validity of data .....
Confidentiality .....
8 Reports | Ngā pūrongo .....
National reports .....
9 Interventions to prevent SSI | Ngā wawaotanga hei aukati SSI .....
Surgical antimicrobial prophylaxis .....
Surgical skin antisepsis .....
Pre-operative hair removal .....
Other guidance .....

Povidone iodine/alcohol skin antisepsis products

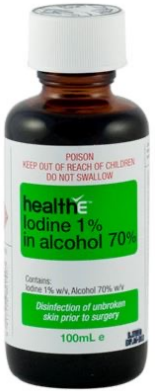
- Pfizer 10% povidine iodine in 70% alcohol will cease being manufactured in Australia this year
- Preferred is now 2% chlorhexidine gluconate (CHG) in 70% alcohol
  - Povidine iodine reserved for some allergies to CHG or select surgeon preferences
- What is a suitable alternative?
  - Must have ~70% alcohol and longer-acting agent
- National procurement team sourcing alternative
  - 10% PI in 70% alcohol (NEXMedical)
  - Listed with Medsafe as a medical device (WAND)
- Also available 1% iodine in 70% alcohol – ~10% povidone iodine

preoperative
SKIN PREP
NEX

nexIODIO P2 10%™ PREP
PVP-I 10% & IPA 70% APPLICATOR
single use applicator, ready to use solution

a new and advanced line of applicators for
patient preoperative skin preparation

NEX MEDICAL LABORATORY



Questions and discussion

Upcoming dates

SSIIP reporting	Due dates
Draft SSI reports for checking (Jul-Sept 2022 data)	16 Feb 2023 – 2 March 2023
QSM, SSI dashboard and VLAD report Jul-Sept 2022 data published	31 March 2023
Next quarterly SSI investigations summary due	1 April 2023

SSIIP meetings	Date
SSI champions meeting	March 2023 – TBC
SSI Investigations meeting	Mid-April 2023 – TBC

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