



SOUTH PERTH  
HOSPITAL

## **PODIATRIC SURGERY – SURVEILLANCE SURVEY**

**1<sup>ST</sup> October 2004 – 31<sup>ST</sup> March 2005**

**Report Compiled by:**

**Elizabeth Bellotti**

**Infection Control Nurse**

**Compiled 15<sup>th</sup> September 2005**

## 1. INTRODUCTION

A post operative sentinel survey was conducted between the 1<sup>st</sup> October 2004 to the 31<sup>st</sup> March 2005 to determine the rate of Surgical Site Infections (SSI) in Podiatric surgery.

## 2. METHODOLOGY

The Podiatric Surgeons operating at South Perth hospital were contacted and asked to participate in the survey. The following Podiatric Surgeons were involved in the survey.

Drs     Jenny Bryant  
           Alan Bryant  
           Lee Gray  
           Mario Horta

1. A patient consent form (appendix 1) was provided to all podiatric patients during the survey period requesting consent from patients to participate in the surveillance program. Patients who agreed to participate in the survey were then provided with a patient information sheet - surveillance program (appendix 2) which provided them with information on the surveillance program.
2. A standardised questionnaire (see appendix 3) was forwarded to the patients' who had consented to being surveyed 3 weeks following their surgery. A stamp self addressed envelope was provided to facilitate the return of questionnaire's and all questionnaire's where confidential.
3. The Podiatric surgeons were provided with a Podiatrist/GPs data collection form (Appendix 4) to complete in the event of a surgical site infection and the forms were to be returned to the hospital secretary.

Data from the consenting participants was correlated and analysed to determine the number of SSI. Where the patient questionnaire identified possible symptoms of infection as per the criteria defined in 4.1 and 4.2, the podiatric surgeons were contacted to confirm if a SSI had occurred

$$\frac{\text{Number of consenting participants who developed SSI from a podiatric procedure performed during the surveillance period.}}{\text{Total Number of podiatric procedures performed on consenting participants during surveillance period}} \times 100$$

The data collected also reviewed antibiotic usage intra and post operatively. The usage of antibiotics, however, was not used as a guide to determine infections.

The average length of stay for podiatric surgery was also collected. The length of stay for a patient was obtained using the National Health Dictionary 6.0 (1998) which states "the length of stay of a patient is calculated by subtracting the date the patient is admitted from the date of separation."

The Podiatric surgical wounds were classified after surgery as per 3.1 and 3.2. The criteria used to determine SSI during the surveillance period is identified below in section 3.1 and 3.2 of the report.

As the surveillance program also required the Podiatric surgeons to report any SSIs the report also contains the overall infection rates for Podiatric Surgery during the surveillance period.

$$\frac{\text{Number of SSI in all podiatric procedures performed during surveillance period}}{\text{Total number of podiatric procedures performed during surveillance period.}} \times 100$$

### 3 DEFINITIONS

#### 3.1 CLEAN WOUND

Non- infective operative wounds in which no inflammation is encountered, and neither the respiratory, alimentary, genitourinary tract nor the oro-pharyngeal cavity is entered. In addition these cases are primarily closed, and drained with closed drainage system when required.

#### 3.2 CLEAN-CONTAMINATED WOUND

An operative wound in which the respiratory, alimentary, or genitourinary tracts are entered without unusual contamination. For example, the biliary tract, appendix, vagina and oropharynx are included.

Note: For lower section caesarean section (LSCS) classify as clean-contaminated unless membranes are ruptured > 6 hours

Definitions taken from The Australian Council on Healthcare Standards Clinical Indicator User's Manual 2004: Infection Control Version 2 p. 132...

### 4. CRITERIA USED TO DETERMINE SURGICAL SITE INFECTIONS (SSI).

The Australian Council on Healthcare Standards Clinical Indicator User's Manual 2004: Infection Control Version 2 P.128-130. definitions have been adopted to determine surgical site infections to podiatric cases.

#### 4.1 Superficial incisional

A superficial incisional SSI must meet the following criteria:

- Infection involves only skin and subcutaneous tissue of the incision,

AND

- Occurs within 30 day after the operative procedure,

AND

- Patient has at least *one* of the following from the superficial incision:
  - purulent drainage from the superficial incision..
  - organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision. Note: a positive wound swab (in contrast to wound aspirate) without other significant evidence of infection is not adequate for diagnosis of superficial SSI.
  - At least one of the following signs of infection: pain or tenderness, localised swelling,, redness or heat;
 

*and* superficial incision is deliberately explored by surgeon, and is culture positive or not cultured. A culture-negative finding does not meet this criterion unless the patient was on antibiotics immediately prior to the wound being explored and/ or the culture being taken.
  - diagnosis of, or antimicrobial treatment of superficial incisional SSI by the operating surgeon or Registrar.

#### Reporting Instructions:

1. Do not report a stitch abscess (minimal inflammation and discharge confined to points of suture penetration) as an infection.

2. If the incisional site infection involves or extends into the fascial and muscle layers, report as a deep incisional SSI.
3. Classify infection that involves both superficial and deep incision sites as deep incisional SSI.
4. Note that for coronary bypass graft operations, infections related to graft and chest sites must be clearly distinguished.

#### **4.2 Deep incisional/ organ space**

A deep incisional SSI must meet the following criteria:

Infection involves deep soft tissues (eg fascial and muscle layers)

AND

Occurs within 30 days after the operative procedure unless an implant is left in place. If an implant is in place then a deep SSI is an infection that appears to be related to the operative procedure and occurs within one year of the operation.

and

- Patient has at least one of the following:
  - a) purulent drainage from the deep incision but not from the organ/space component of the surgical site..
  - b) a deep incision spontaneously dehisces or is deliberately explored by a surgeon when the patient has at least one of the following signs or symptoms: fever (>38C), or localised pain or tenderness and is culture positive or not cultured. A culture-negative finding does not meet this criterion unless the patient was on antibiotics immediately prior to the wound being explored and/or the culture being taken;
  - c) an abscess or other evidence of infection involving a deep / organ space is found on direct examination, during reoperation or by histopathologic or radiologic examination.
  - d) diagnosis of, or antimicrobial treatment of a deep incisional SSI by the operating surgeon or registrar.

#### **Reporting Instructions:**

1. Classify infection that involves both superficial and deep incision sites as deep incisional SSI.

## 5 RESULTS

There were a total of 119 Podiatric cases performed during the survey period. The predominant surgical procedures included:

- Repair of ingrown toenails
- Osteostomy
- Bunionectomies
- Mortons Neuromas – neurectomy

76 (63.8%) patients agreed to participate in the surveillance program. Of the 76 patients sent questionnaires 60 (78.9%) returned the questionnaire.

48 (80%) of the operations performed were classified as clean  
 10 (16.7%) of the operations performed were classified as clean contaminated  
 2 (3.3%) of the operations performed had not been classified.

The average length of stay was 1.2 days.

### SYMPTOMS

34 (56.7%) of the consenting participants had no signs or symptoms of infection.

26 (43.3%) of the consenting participants developed 1 or more of the symptoms listed below:

Wound not yet healed		17
Redness		12
Swelling		19
Increased pain		5
Wound Discharge (watery)		1
	(blood stained)	3
	(thick yellow)	0
Febrile/Unwell		6
Visit to G.P./ Surgeon		7
Told wound infected		1
Prescribed Antibiotics		9
Symptoms occurred	0-4 days	10
	5-10 days	8
	11-17	5
	18-24	2
	25-30	1

### ANTIBIOTIC USAGE

50 (83.3%) of the consenting participant's received Cephalothin intra operatively.

8 (13.3%) of the consenting participants also received oral Keflex post – operatively whilst in hospital and were discharged home with the antibiotics.

4 of the consenting participants had Keflex dispensed by pharmacy for discharge

3 consenting participants were provided with scripts.

1 consenting participant received a stat dose of oral Keflex 1500mg in recovery room and then 500mg post-operatively on ward.

## 6. OUTCOME

2 consenting participants were identified and confirmed by the Podiatric Surgeons as having developed a post operative Superficial Incisional SSI during the surveillance period.

**An infection rate of 3.3%.**

Of the 2 confirmed SSIs:

- 1 case was classified as clean/contaminated procedure and received no antibiotics
- 1 case was classified as a clean procedure and received intra-operative antibiotics and commenced on oral antibiotics post operatively after developing symptoms of infection.

3 cases of Superficial Incisional SSIs were identified and confirmed for the total patient population undergoing a Podiatric surgical procedure during the surveillance period.

**An infection rate of 2.52%.**

## 7. CONCLUSION

*“The National Strategy to Address Health Care Associated Infections, July 2003* suggests that between 2% to 13% of patients suffer from SSI.” (ACHS 2005 p. 186)

Perencevich, Sands, Cosgrove, Guadagnoli, Meara & Platt (2003) state “Surgical site infections (SSIs), the second most common cause of nosocomial infection after urinary tract infections, cause approximately 17% of all hospital-acquired infections.”

ACHS suggests that Health care organizations that perform, routinely, at least 100 surgical procedures of the same type per year, may evaluate patient safety by reporting on the frequency of infection and related issues. Timely investigation of higher than expected rates of infection may identify issues relating to preventative factors for documentation and corrective action. (ACHS 2005 p. 186).

Given the above statistics on SSIs and the ACHS recommendations for routine monitoring of surgical procedures to ensure patient safety the result of the Podiatric surveillance indicates that the infection rate during the surveillance period is at the lower end of documented health care associated SSI rates and well within current industry standards.

Antibiotic prescribing is appropriate and is being undertaken in accordance with the recommended Therapeutic Guidelines - Antibiotic.

Sincere thanks are to be conveyed to the Podiatric Surgeons for their assistance and cooperation during the surveillance period.

## 8. RECOMMENDATIONS

- Repeat the surveillance program be again in 2 years.
- Infection Control develops networks for the Benchmarking of Podiatric surgery with other health providers that undertake Podiatric surgery.

## 9. REFERENCES

Australian Council of Healthcare Standards (ACHS). (2004). The Australian Council on Healthcare Standards Clinical indicators user's manual 2004 Version 2. Sydney: Australian Council of Healthcare Standards (ACHS).

Australian Council of Healthcare Standards (ACHS). (2005). The Australian Council on Healthcare Standards Clinical indicators user's manual 2005 Version 3. Sydney: Australian Council of Healthcare Standards (ACHS).

National Health Dictionary 6.0 (1998)

Perencevich, E., Sands, K.E., Cosgrove, S.E., Guadagnoli, E., Meara, E., & Platt, R. (2003) *Health and Economic Impact of Surgical Site Infections Diagnosed after Hospital Discharge* Emerging infectious diseases Vol 9 Feb 2003. ([www.cdc.gov/ncidod/eid/vol9no2/02-0232.htm](http://www.cdc.gov/ncidod/eid/vol9no2/02-0232.htm))

(2003) Therapeutic Guidelines Antibiotic Version 12



SOUTH PERTH  
HOSPITAL

## CONSENT FORM

### SURVEILLANCE PROGRAM

South Perth Hospital adheres to the 10 National Privacy Principles as outlined in the Guidelines on Privacy in the Private Health sector and complies with legislative requirements in relation to the management of personal information. We believe that you can feel safe in the knowledge that we will safeguard your personal information ensuring confidentiality is respected and information is stored securely.

We are seeking your consent to participate in our surveillance program and advise you that should you consent, the following will occur:

- After the operation we will be forwarding a survey form to you requesting information relating to your wound;
- On receipt of this information from you, we may need to speak to your treating doctor (eg your Podiatric surgeon or General Practitioner);
- A final report will be written and tabled at the Infection Control and Medical Advisory Committees. Your confidentiality will be respected and no names will appear in this report

---

---

I consent to participate in the South Perth Hospital surveillance program to assist South Perth Hospital in undertaking quality improvement activities in relation to infection control.

Please tick this box if you would like a copy of the report.

\_\_\_\_\_  
*(Patient Signature)*

**Affix patient label here**

\_\_\_\_\_  
*(Date)*

Thank you for assisting South Perth Hospital to achieve our mission 'To provide to the Community of Western Australia a modern health facility where caring and dedicated staff can provide excellent health services.'



## PATIENT INFORMATION SHEET

### SURVEILLANCE PROGRAM

**Staff at South Perth Hospital are committed to achieving the hospital's mission – 'To provide to the Community of Western Australia, a modern health facility where caring and dedicated staff can provide excellent services'. To do this we use various methods to evaluate both the services we provide and the outcomes achieved, and the surveillance program is part of this.**

Surveillance within the health care setting is an important infection control practice. "Effective surveillance systems can monitor changes in the rate of infection against a baseline rate, evaluate the effectiveness of new infection control policies and facilitate the early detection of outbreaks. " (Department of Health and Ageing 2004 21-1).

Should you consent to participate in our surveillance program your privacy will be protected. The hospital will forward a survey form to you requesting information relating to your wound. The type of information that we will be asking you to provide includes:

- Whether your wound has healed.
- Whether you experienced redness; increased pain; thick, yellow discharge; swelling; watery discharge; blood stained discharge with your wound and how many days after the operation this happened.
- Whether you have experienced a high fever, which was not due to another illness, since the operation.
- Has your doctor prescribed antibiotics to help your wound heal and if so, which ones?

This information will be collated and your name will be removed prior to the findings being reported to the Infection Control and Medical Advisory Committees.

If you would like a copy of the report, please tick the box on the consent form.

Thank you

Infection Control

**SOUTH PERTH HOSPITAL  
INFECTION CONTROL SURVEY**



On admission to South Perth Hospital you completed a consent form indicating that you were happy to participate in the hospitals ongoing surveillance and quality assurance program. Please answer the following questions about your operation and return this form to us in the enclosed reply-paid envelope.

**Please tick the relevant box(es) that apply to you**

1. **Has your wound completely healed?**  Yes  No
2. **Have you had any of the following problems with your wound? (please tick)**

<input type="checkbox"/> Redness	<input type="checkbox"/> Increased Pain	<input type="checkbox"/> Thick, yellow discharge
<input type="checkbox"/> Swelling	<input type="checkbox"/> Watery discharge	<input type="checkbox"/> Blood-stained discharge
3. **How many days after the operation did the above symptoms occur? (please tick)**

<input type="checkbox"/> 0-4 days	<input type="checkbox"/> 5-10 days	<input type="checkbox"/> 11-17 days
<input type="checkbox"/> 18-24 days	<input type="checkbox"/> 25-30 days	
4. **Have you had a high fever, which was not due to another illness, since operation?**  Yes  No
5. **Did you visit a doctor as a result of any of the symptoms described above?**  Yes  No
6. **Has your doctor at any time told you that your wound is infected?**  Yes  No
7. **Has your doctor given you any antibiotics to help your wound heal?**  Yes  No

If yes, please state which antibiotic \_\_\_\_\_

If you contacted anyone other than your treating podiatrist please provide contact details if you are happy for us to contact him or her to discuss your wound with them.

Doctors Name: \_\_\_\_\_

Doctors Contact Number: \_\_\_\_\_

Thank you very much for taking the time to answer these questions.

Infection Control

**SURGICAL SITE INFECTION  
PODIATRIC SURGERY**

*Please complete if infection confirmed.*

Doctor: \_\_\_\_\_

Patient Name: \_\_\_\_\_

Date of Operation: \_\_\_\_\_ Date of Consultation: \_\_\_\_\_

Antibiotic Prescribed: \_\_\_\_\_

*Please tick which are applicable:*

**SUPERFICIAL INCISIONAL**

- Infection involves only skin and subcutaneous tissue of the incision and
- Infection occurs within 30 days after the operative procedure
- Patient has at least one of the following
  - Purulent discharge from the superficial incision or
  - Organisms isolated from an aseptically obtained culture of fluid or fluid or tissue from the superficial incision (note that a positive wound swab as opposed to wound aspirate, is not adequate for diagnosis of superficial SSI without other significant evidence of infection); or
  - Patient has at least one of the following:
    - Pain or tenderness or localised swelling or redness or heat; or
    - Superficial incision is deliberately explored by surgeon, and is culture positive or not cultured (a culture-negative finding does not meet this criterion unless the patient was on antibiotics immediately prior to the wound being explored and/or the culture being taken); or
    - Diagnosis or antimicrobial treatment of superficial incisional SSI by the operating surgeon or registrar.

**DEEP INCISIONAL**

- Infection involves deep soft tissues (eg fascial and muscle layers) of the incision.
- Infection occurs within 30 days after the operative procedure, unless an implant (ie a nonhuman-derived implantable foreign body that is permanently placed in a patient during surgery) is left in place.
- Patient has at least one of the following:
  - Purulent drainage from the deep incision but not from the organ/space component of the surgical site;
  - A deep incision spontaneously dehisces or is deliberately explored by a surgeon when the patient has at least one of the following signs or symptoms: fever (>38°C), or localised pain or tenderness, and is culture positive or not cultured (a culture-negative finding does not meet this criterion unless the patient was on antibiotics immediately prior to the wound being explored and/or the culture being taken); or
  - An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination; or
  - Diagnosis or antimicrobial treatment of a deep incisional SSI by the operating surgeon or registrar.

*Reporting Instructions:*

1. Do not report a stitch abscess (minimal inflammation and discharge confined to points of suture penetration) as an infection.
2. If the incisional site infection involves or extends into the fascial and muscle layers, report as a deep incisional SSI.
3. Classify infection that involves both superficial and deep incision sites as deep incisional SSI.

